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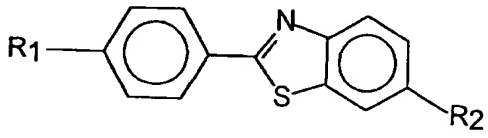
(54) Liquid crystalline compound and use thereof

(57) A process for producing a liquid crystalline compound represented by the following general formula (A):



(A)

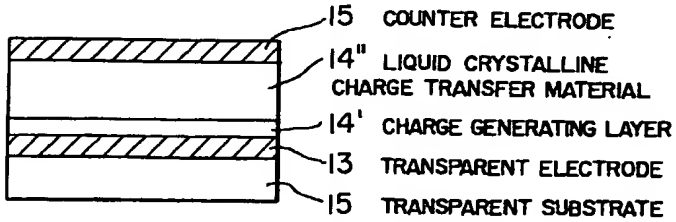


FIG. 1

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Description

The present invention relates to a liquid crystalline compound and use thereof. More particularly, the present invention relates to a process for producing a novel liquid crystalline compound, which exhibits liquid crystallinity and, in addition, photoconductivity and fluorescence, and use of the liquid crystallin compound in a liquid crystalline charge transport material.

Liquid crystalline compounds having various structures are known in the art and have been extensively used as a liquid crystal display material.

Materials, wherein a charge transport molecule which serves as a charge transport site are dissolved or dispersed in a matrix material, such as a polycarbonate resin, or materials, wherein a charge transport molecule structure pends as a pendant on a polymer backbone, such as polyvinyl carbazole, are known in the art. These materials have been extensively used as materials for photoconductors in copying machines, printers and the like.

For the above conventional charge transport materials, in the case of dispersive charge transport materials, that the charge transport molecule has high solubility in the polymer as a matrix is preferred from the viewpoint of improving the charge transport capability. In fact, however, bringing the charge transport molecule to a high concentration in the matrix leads to crystallization of the charge transport molecule in the matrix, and, for this reason, the upper limit of the concentration of the charge transport molecule is generally 20 to 50% by weight although it varies depending upon the kind of the charge transport molecule. This means that the matrix not having charge transport capability occupies not less than 50% by weight of the whole material. This in turn raises a new problem that the charge transport capability and response speed of a film formed from the material are limited by the excess matrix present in the material.

On the other hand, in the case of the pendant type charge transport polymer, the proportion of the pendant having charge transport capability can be increased. This polymer, however, involves many practical problems associated with mechanical strength, environmental stability and durability of the formed film, film-forming properties and the like. In this type of charge transport material, the charge transport pendants are locally located in close proximity, and the local proximity portion serves as a stable site in hopping of charges and functions as a kind of trap, unfavorably resulting in lowered charge mobility.

For all the above charge transport materials, electrical properties of such amorphous materials raise a problem that, unlike crystalline materials, the hopping site fluctuates in terms of space, as well as in terms of energy. For this reason, the charge transport depends greatly upon the concentration of the charge transport site, and the mobility is generally about 10^{-6} to 10^{-5} $cm^2/V.sec$ which is much smaller than that of the molecular crystal, 0.1 to 1 $cm^2/V.sec$. Further, the amorphous materials have an additional problem that the charge transport properties depend greatly upon temperature and field strength. This is greatly different from the crystalline charge transport materials.

A polycrystalline charge transport material is a promissing material in applications where a charge transport layer having a large area is necessary, because it can form an even charge transport film having a large area. The polycrystalline material, however, is inherently an uneven material from the microscopic viewpoint and involves a problem that a defect formed in the interface of particles should be inhibited.

Accordingly, the present invention aims to solve the above problems of the prior art and to provide a novel charge transport material which simultaneously realizes advantages of the amorphous materials, that is, structural flexibility and evenness in a large area, and advantages of the crystalline materials having molecular orientation and is excellent in high-quality charge transport capability, thin film-forming properties, various types of durability and the like.

An object of the present invention is to provide a novel liquid crystalline compound which exhibits liquid crystallinity and, in addition, photoconductivity and fluorescence and a process for producing the same.

Another object of the present invention is to provide a novel charge transport material which simultaneously realizes advantages of the amorphous materials, that is, structural flexibility and evenness in a large area, and advantages of the crystalline materials having molecular orientation and is excellent in high-quality charge transport capability, thin film-forming properties, various types of durability and the like.

According to one aspect of the present invention, there is provided a process for producing a liquid crystalline compound represented by the general formula (A) described below, comprising the steps of: reacting a compound represented by the general formula (1), described below, with a compound represented by the general formula (2) described below; brominating the reaction product to give a compound represented by the general formula (3) described below; and substituting the bromine atom with an R_2 group.

According to another aspect of the present invention, there is provided a process for producing a liquid crystalline compound represented by the general formula (B) described below, comprising the step of: reacting a compound represented by the general formula (4), described below, with a compound represented by the general formula (5) described below.

According to a further aspect of the present invention, ther is provided a process for producing a liquid crystalline compound represented by the general formula (C) described below, comprising the step of: reacting two moles of a compound represented by the general formula (6), described below, with one mol of a compound represented by the general formula (7) described below.

According to a yet further aspect of the present invention, there is provided a process for producing a liquid crystalline compound represented by the general formula (D) described below, comprising the step of: reacting two moles of a compound represented by the general formula (8), described below, with one mole of a compound represented by the general formula (9) described below.

According to a yet further aspect of the present invention, there is provided a liquid crystalline charge transport material which exhibits smectic liquid crystallinity and has a reduction potential relative to a standard reference electrode (SCE) in the range of from - 0.3 to -0.6 (V vs. SCE).

According to a yet further aspect of the present invention, there is provided a liquid crystalline charge transport material which exhibits smectic liquid crystallinity and has an oxidation potential relative to a standard reference electrode (SCE) in the range of from 0.2 to 1.3 (V vs. SCE).

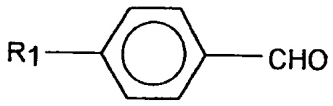
Figs. 1, 2, 3 and 4 are cross-sectional views of embodiments where the crystalline charge transport material according to the present invention has been applied to a charge transport layer in an image recording device:

Fig. 5 is a cross-sectional view of an embodiment where the liquid crystalline charge transport material has been applied to a space light modulating device; and

Fig. 6 is a cross-sectional view of an embodiment where the liquid crystalline charge transport material according to the present invention has been applied to a thin film transistor.

Process for producing liquid crystalline compound

The first aspect of the present invention relates to a process for producing a liquid crystalline compound represented by the general formula (A), comprising the steps of: reacting a compound represented by the general formula (1) with a compound represented by the general formula (2); brominating the reaction product to give a compound represented by the general formula (3); and substituting the bromine atom of the compound (3) with an R_2 group:



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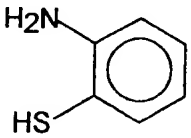

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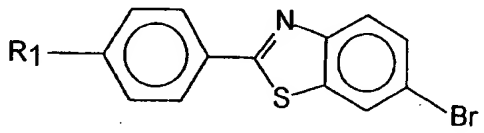

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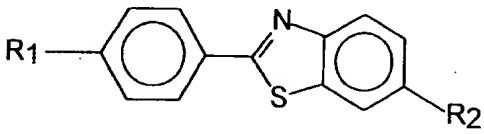
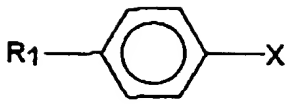


(A)

wherein R_1 and R_2 represent (a) a cyano group, (b) a nitro group, (c) a fluorine atom, or (d) a C_1 - C_{22} straight-chain or branched, saturated or unsaturated, alkyl or alkoxy group attached to the aromatic ring through an oxygen atom, or a sulfur atom, provided that at least one of R_1 and R_2 represents said alkyl or alkoxy group.

The second aspect of the present invention relates to a process for producing a liquid crystalline compound represented by the general formula (B), comprising the step of: reacting a compound represented by the general formula (4) with a compound represented by the general formula (5):



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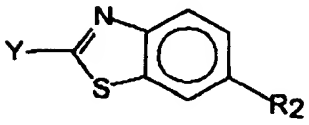

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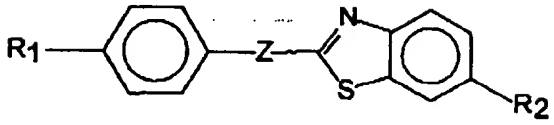
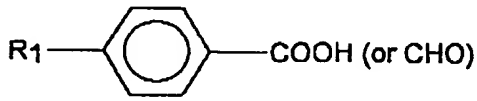


(B)

wherein R_1 and R_2 represent (a) a cyano group, (b) a nitro group, (c) a fluorin atom, or (d) a C_1 - C_{22} straight-chain or branched, saturated or unsaturated, alkyl or alkoxy group attached to the aromatic ring through an oxygen atom, or a sulfur atom, provided that at least one of R_1 and R_2 represents said alkyl or alkoxy group; and X and Y are respectively groups which are reacted with each other to form Z selected from a -COO-, -OCO-, -N=N-, -CH=N-, -N=N-, -CH_2S-, -CH=CH-, or acetylene group.

The third aspect of the present invention relates to a process for producing a liquid crystalline compound represented by the general formula (C), comprising the step of: reacting 2 moles of a compound represented by the general formula (6) with one mole of a compound represented by the general formula (7):



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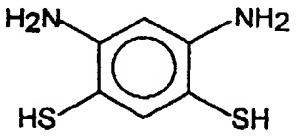

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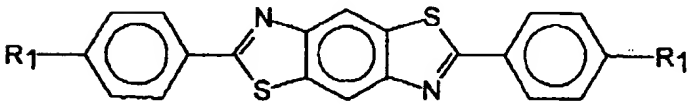
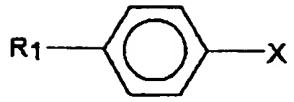


(C)

wherein R_1 is a C_1 - C_{22} straight-chain or branched saturated or unsaturated alkyl or alkoxy group attached to the aromatic ring through an oxygen or sulfur atom.

The fourth aspect of the present invention relates to a process for producing a liquid crystalline compound represented by the general formula (D), comprising the step of: reacting two moles of a compound represented by the general formula (8) with one mole of a compound represented by the general formula (9):



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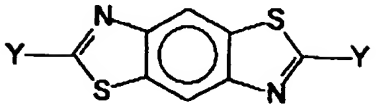
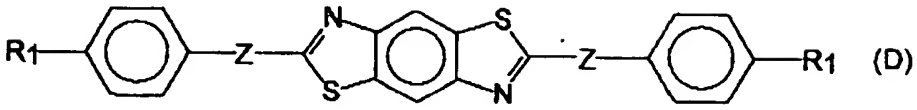


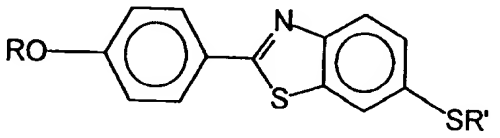
(9)



(D)

wherein R_1 is a C_1 - C_{22} straight-chain or branched saturated or unsaturated alkyl or alkoxy group attached to the aromatic ring through an oxygen or sulfur atom; and X and Y are respectively groups which are reacted with each other to form Z selected from a -COO-, -OCO-, -N=N-, -CH=N-, - N=N-, $-CH_2S-$, -CH=CH-, or acetylene group.

According to a specific one embodiment of the present invention, there is provided a process for producing a liquid crystalline compound represented by the following general formula (I), comprising the steps of: reacting a 4-alkoxybenzaldehyde with o-aminobenzenethiol to synthesize a 2-(4'-alkoxyphenyl)benzothiazole; brominating the 2-(4'-alkoxyphenyl)benzothiazole to synthesize a 2-(4'-alkoxyphenyl)-6-bromobenzothiazole; and reacting the resultant bromide with an alkanethiol:



(I)

wherein R represents a C_4 - C_{20} alkyl group; and R' represents a C_4 - C_{20} alkyl group, provided that the total number of carbon atoms contained in R and R' is 10 or more.

A further preferred embodiment of the production process will be described.

According to the present invention, a 4-alkoxybenzaldehyde is reacted with 1 mole or more, preferably 1.1 to 1.5 moles or more, based on one mole of the 4-alkoxybenzaldehyde, of o-aminobenzenethiol in a solvent suitable for a dehydration reaction (oxidative cyclization), preferably dimethylsulfoxide, at a temperature of 100°C or above, preferably 120 to 160°C, for about 30 min to 2 hr.

In this reaction, the aldehyde group, the amino group, and the thiol group are combined together to form a thiazole ring, thus giving a 2-(4'-alkoxyphenyl)benzothiazole as an intermediate. This reaction can be easily achieved, and the intermediate is produced in a high yield of not less than 90%. The intermediate may be purified before use in the subsequent step or alternatively used in the subsequent step without purification.

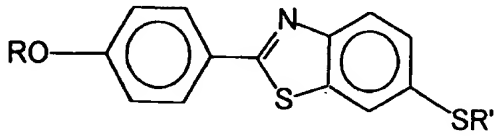
The 2-(4'-alkoxyphenyl)benzothiazole is then brominated. In the bromination, the 2-(4'-alkoxyphenyl)benzothiazole is dissolved in a suitable solvent, such as glacial acetic acid, and bromine in an equimolar or slightly excessive molar amount is dropwise added thereto. In this reaction, bromine is easily substituted in the 6-position of the benzothiazole ring to give a 2-(4'-alkoxyphenyl)-6-bromobenzothiazole, and the reaction under mild conditions with heating can give the bromide in a yield of not less than 60%. When this intermediate contains a dibromination product and/or a substance remaining unreacted as impurities, it is preferably purified by recrystallization before use in the subsequent step.

Finally, the above bromide is reacted with an alkanethiol to give a liquid crystalline compound according to the present invention. Since this reaction is an aromatic nucleophilic displacement reaction by taking advantage of a thiolate anion, it is preferably performed in an alkaline atmosphere. For example, a liquid crystalline compound represented by the general formula (I) is produced by suspending an oil dispersion of sodium hydride in an ether, dropwise adding a corresponding alkanethiol to the suspension to produce a sodium salt of the alkanethiol, and reacting th sodium salt with the abov bromide in a suitable solvent at a temperature of about 30 to 100°C for 30 min to 2 hr.

According to the process of th present invention, the number of carbon atoms of the alkyl group in the 4-alkoxybenzaldehyde and the alkanethiol is important, and the number of carbon atoms of the alkyl group is preferably not less than 4, preferably 4 to 20 from the viewpoint of developing excellent liquid crystallinity. For the alkanethiol, the number

of carbon atoms of the alkyl group is 4 or more, preferably 4 to 20. These alkyl groups may be somewhat branched. However, in order to develop excellent liquid crystallinity, the alkyl group is more preferably linear with the total number of carbon atoms of R and R' being 10 or more, preferably 12 to 40.

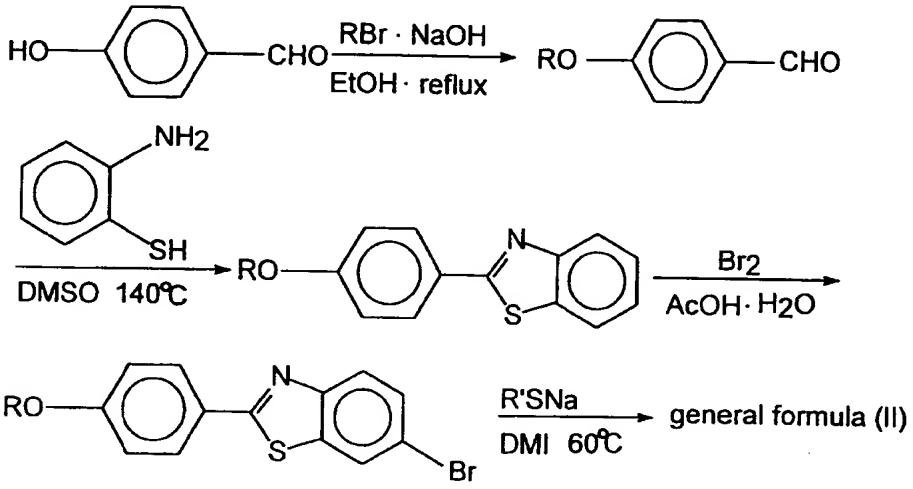
Further, liquid crystalline compounds represented by the following general formula (II) also fall within the scope of the present invention:



(II)

wherein R represents C_7H_{15} and R' represents C_6H_{13}, C_8H_{17}, $C_{10}H_{21}$ or $C_{12}H_{25}$.

The above liquid crystalline compounds according to the present invention can be produced in a high yield from a p-alkoxybenzaldehyde, for example, by the following reaction scheme:



wherein R and R' are as defined above and DMI represents N,N'-dimethylimidazolidinone.

The present invention provides a novel liquid crystalline compound which exhibits liquid crystallinity and, in addition, photoconductivity and fluorescence. The novel liquid crystalline compound is useful as a material for a liquid crystal display, a photosensitive material for electrophotography and the like. In particular, the liquid crystalline compound of the present invention has strong fluorescence and, hence, when used as a material for a color liquid crystal display or used in combination with a dichroic dye, can effectively utilize an ultraviolet portion in a backlight source, offering a display image having excellent sharpness and brightness.

Liquid crystalline charge transport material

According to a further aspect of the present invention, there is provided a liquid crystalline charge transport material which exhibits smectic liquid crystallinity and has a reduction potential relative to a standard reference electrode (SCE) in the range of from - 0.3 to -0.6 (V vs. SCE). According to a further aspect of the present invention, there is provided a liquid crystalline charge transport material which exhibits smectic liquid crystallinity and has an oxidation potential relative to a standard reference electrode (SCE) in the range of from 0.2 to 1.3 (V vs. SCE).

A liquid crystalline molecule, by virtue of its molecular structure, has self-orientation, and, in the case of charge transport utilizing this molecule as a hopping site, unlike the above molecule dispersive material, the spacial and energy scattering of the hopping site is inhibited, enabling a band-like transport property such as found in a molecular crystal to be realized. This enables a mobility of about 10^{-3} to 10^{-2} $cm^2/V.sec$, that is, a larger mobility than that in the conventional molecular dispersive material, to be realized, and, in addition, the charg transport properties do not depend upon electric field.

In order that the material serves as a hole transport material, the molecule should have a low ionization potential, and, hence, the oxidation potential should be in the range of from 0.2 to 1.3 (V vs. SCE) relative to a standard reference

electrode (SCE). Further, in order that the material serves as an electron transport material, the molecule should have high electron affinity, and, hence, the reduction potential should be in the range of from -0.3 to -0.6 (V vs. SCE). The abov requirements are the same as the well known requirements for a charge transport molecule used in the conventional molecule dispersive material.

Preferred liquid crystalline charge transport materials of the present invention will be listed in Tables 1 to 71. Among the charge transport materials listed in these tables, more preferred materials are those which satisfy the above requirements, have (aromatic ring of 6 π electron system) n (wherein n is an integer of 1 to 4) cores and exhibit smectic liquid crystallinity, those wherein the aromatic ring of 6 π electron system is linked through a carbon-carbon double bond or a carbon-carbon triple bond, and those which has a core of a benzothiazole ring, a benzoxazole ring, a benzimidazole ring, a naphthalene ring, or other aromatic ring of 10 π electron system and exhibit smectic liquid crystallinity.

The liquid crystalline charge transport materials according to the present invention are useful for various applications such as photosensors, electroluminescence devices, photoconductors, space modulating devices, and thin film transistors.

The liquid crystalline charge transfer materials according to the present invention can realize high-speed mobility and inhibition of the creation of structural traps. Therefore, high-speed response photosensors may be mentioned as the first application thereof. Next, by virtue of excellent charge transport properties, the liquid crystalline charge transfer materials according to the present invention can be used as a charge transfer layer in electroluminescence devices. Further, since electric field orientation and photoconductivity can be simultaneously switched, they can be used in image display devices.

The application to image display devices will be described as a representative example. In an image display device, when a device comprising a transparent substrate, such as glass, a transparent electrode, such as ITO (indium-tin-oxide), a charge generating layer capable of generating carriers according to exposure, the liquid crystalline charge transport material of the present invention, and a counter electrode (such as a gold electrode) laminated in that order is subjected to imagewise exposure (input image) through the bottom of the device as shown in the schematic diagram, the liquid crystalline charge transport material is aligned according to the exposure, resulting in flow of carriers in the counter electrode (gold electrode). The input image can be reproduced by optical reading of the alignment of the liquid crystal. The larger the smectic properties of the liquid crystal, the longer the storage time of the alignment of the liquid crystal and the longer the storage time of the input information.

Figs. 1 to 3 are explanatory diagrams of embodiments where the liquid crystalline charge transport material according to the present invention has been applied to a charge transport layer in an image recording device. Fig. 1 is a schematic view of a photosensor, an embodiment where the liquid crystalline charge transport material according to the present invention has been applied to a charge transport layer. Use of the photosensor will be described in more detail. As shown in Fig. 3, the device is subjected to pattern exposure from the direction of the above in the drawing while applying a voltage across the upper and lower electrodes 15. Carriers are generated in a pattern form in 14', and charges transported by a charge transport layer 14" are discharged in a space 19 and reach the surface of an information recording layer 11.

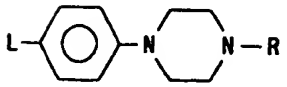
The information recording layer is, for example, a liquid crystal/polymer composite layer formed of a composite of a smectic liquid crystal and a polymer. The liquid crystal is aligned in a pattern form in an electric field of accumulated charges and accumulated, enabling optical recording to be performed.

In the embodiment shown in Fig. 4, exposure with a voltage being applied may be carried out in the same manner as described above in connection with the embodiment shown in Fig. 3. The generated charges (image) are accumulated on the top surface of a dielectric layer 20, and the liquid crystal is aligned in a pattern form in an electric field of charges accumulated in the same manner as described above in connection with the embodiment shown in Fig. 3 and accumulated, enabling optical reading to be performed.

Further, the liquid crystalline charge transport material according to the present invention can be used also in a pace optical light modulating device schematically shown in Fig. 5. Furthermore, the liquid crystalline charge transport materials of the present invention can also be used as an active layer of a thin film transistor. For example, as shown in Fig. 6, the liquid crystalline material may be disposed on a substrate having thereon source, drain, and gate electrodes.

Thus, the liquid crystalline charge transport materials according to the present invention are useful for various applications such as photosensors, electroluminescence devices, photoconductors, space modulating devices, and thin film transistors.

TABLE 1



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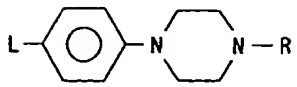
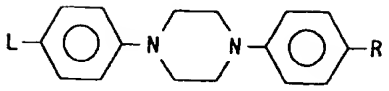
7123	NC-CH=CH-	-C_5H_{11}	K61.8	A93.3 N122.2 I
7124	NC-CH=CH-	-C_6H_{13}	K79.7	A113 N120.6 I
7125	NC-CH=CH-	-C_7H_{15}	K70.2	A125 I
7126	NC-CH=CH-	-C_8H_{17}	K59.3	A127.4 I
7127	NC-CH=CH-	-C_9H_{19}	K55	A131 I
7130	C_5H_{11}-	-C_8H_{19}	K42.5	B65.5 I
7131	C_7H_{15}-	-C_7H_{15}	K52.5	B68 I
7132	C_2H_5-OOC-CH=CH-	-C_4H_9	K96.3	S104 S153.9 I
7133	C_2H_5-OOC-CH=CH-	-C_5H_{11}	K88.8	S88.5 S149.1 I
7134	C_2H_5-OOC-CH=CH-	-C_6H_{13}	K74.2	S81 S146.2 I
7135	C_2H_5-OOC-CH=CH-	-C_7H_{15}	K61	S74 S142.5 I
7136	C_2H_5-OOC-CH=CH-	-C_8H_{17}	K62	S75 S143 I
7137	C_2H_5-OOC-CH=CH-	-C_9H_{19}	K60	S73 S141.4 I
7138	CH_3-O-	-C_3H_7	K51.9	S27.9 A33.6 I
7139	CH_3-O-	-C_4H_9	K38.7	S26.2 A36.7 I
7140	CH_3-O-	-C_5H_{11}	K38	S23.5 A31.2 I
7141	CH_3-O-	-C_6H_{13}	K31.6	S14 A28.7 I
7142	CH_3-O-	-C_7H_{15}	K36.1	S23.8 A27.7 N33.6 I
7148	C_2H_5-O-	-C_4H_9	K49.3	A67.1 I
7149	C_4H_9-O-	-C_4H_9	K7.4	S76 A96.2 I
7150	C_4H_9-O-	-C_5H_{11}	K11.3	S53.4 I
7151	C_4H_9-O-	-C_6H_{13}	K20.8	S54.5 A83.4 I
7152	C_5H_{11}-O-	-C_3H_7	K36.5	S74 S76.5 I
7153	C_5H_{11}-O-	-C_4H_9	K59.5	S61.5 S81.2 I
7154	C_5H_{11}-O-	-C_5H_{11}	K39.5	S54 S84.8 I
7155	C_5H_{11}-O-	-C_6H_{13}	K40.5	S46.5 S85.5 I

TABLE 2

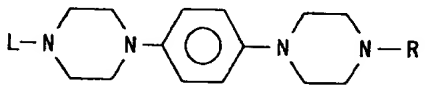


No	L	R	Cr	LC
7156	C_5H_{11}-O-	$-C_7H_{15}$	K35.4	S84.8 I
7157	C_5H_{11}-O-	$-C_8H_{17}$	K39.5	S84 I
7158	C_5H_{11}-O-	$-C_9H_{19}$	K42.5	S82.5 I
7159	C_6H_{13}-O-	$-C_4H_9$	K18.2	S43.4 A74.1 I
7160	C_6H_{13}-O-	$-C_9H_{19}$	K35	B87 I
7161	C_7H_{15}-O-	$-C_3H_7$	K47	B72 I
7162	C_7H_{15}-O-	$-C_7H_{15}$	K53.5	B85.5 I
7163	C_5H_{11}-CO-	$-C_5H_{11}$	K75.5	S104.5 I
7164	C_5H_{11}-CO-	$-C_6H_{13}$	K80.5	S102 S103 I
7165	C_5H_{11}-CO-	$-C_7H_{15}$	K71	S95 S101 I
7166	C_5H_{11}-CO-	$-C_8H_{17}$	K87	S95.3 S98 I
7167	C_5H_{11}-CO-	$-C_9H_{19}$	K84.5	S93.8 S99.6 I
7168	C_6H_{13}-CO-	$-C_8H_{17}$	K72	S101.8 S105.8 I
7169	C_7H_{15}-CO-	$-C_8H_{17}$	K86.6	S97 S104.5 I

TABLE 3

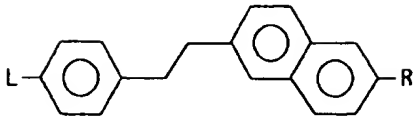


No	L	R	Cr	LC
26206	C_3H_7-	-C_3H_7	K90	P120 P190 I
26207	C_4H_9-	-C_4H_9	K57	P119 P190 I
26208	C_5H_{11}-	-C_5H_{11}	K41	P114 P190 I
26209	C_6H_{13}-	-C_6H_{13}	K55	P184 I
26210	C_7H_{15}-	-C_7H_{15}	K28	P180 I
26211	C_8H_{17}-	-C_8H_{17}	K39	P173 I
26212	C_9H_{19}-	-C_9H_{19}	K45	P165 I
26213	$C_{10}H_{21}$-	-$C_{10}H_{21}$	K62	P160 I
26217	C_2H_5-	-O-C_2H_5	K166	S182 I
26221	C_3H_7-O-	-O-C_3H_7	K210	P215 I
26222	C_4H_9-O-	-O-C_4H_9	K197	P227 I
26223	C_5H_{11}-O-	-O-C_5H_{11}	K185	P218 I
26224	C_6H_{13}-O-	-O-C_6H_{13}	K172	P218 I
26225	C_7H_{15}-O-	-O-C_7H_{15}	K166	P209 I
26226	C_8H_{17}-O-	-O-C_8H_{17}	K163	P203 I
26227	C_9H_{19}-O-	-O-C_9H_{19}	K162	P194 I
26228	$C_{10}H_{21}$-O-	-O-$C_{10}H_{21}$	K161	P189 I
26230	CH_3-O-	-OOC-C_2H_5	K148	S155 N193 I

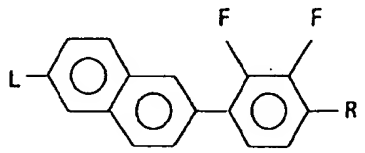


No	L	R	Cr	LC
28692	C_3H_7-	-C_3H_7	K163.3	B171.5 I
28693	C_4H_9-	-C_4H_9	K36.3	E106.9 S113.4 B179.5 I
28694	C_5H_{11}-	-C_5H_{11}	K50	B155.9 U
28695	C_6H_{13}-	-C_6H_{13}	K30	E76.7 S107.9 B182.8 I
28696	C_7H_{15}-	-C_7H_{15}	K27.7	E82 S100.4 B175.5 I
28697	C_8H_{17}-	-C_8H_{17}	K58.1	E64.5 S93.4 B178.3 I
28698	C_9H_{19}-	-C_9H_{19}	K52.6	E75.3 S87.3 B174.1 I

TABLE 4

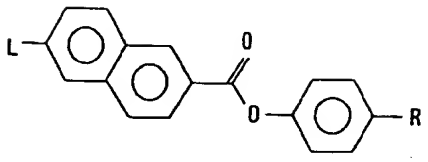


No	L	R		Cr	LC
22075	C_6H_{13}-CHMe-OOC-	-O-$C_{10}H_{21}$	1	K?	A? I
22076	C_2H_5-CHMe-CH_2-OOC-	-O-$C_{10}H_{21}$	1	K22	A48 I
22077	C_6H_{13}-CHCF_3-OOC-	-O-$C_{10}H_{21}$	1	K-13	A-6 I



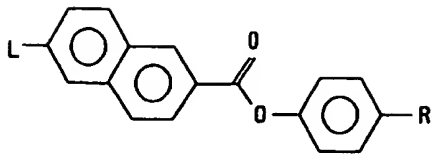
No	L	R		Cr	LC
8085	C_8H_{17}-O-	-C_5H_{11}		K36	C44.5 A75 N83.5 I

TABLE 5



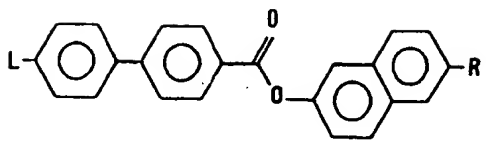
No	L	R	Cr	LC
22305	C_7H_{15}-	-C_7H_{15}	K83.1	C58 N109.5 I
22307	C_6H_{13}-O-	-C_5H_{11}	K81	A85 N120 I
22309	C_8H_{17}-O-	-C_7H_{15}	K73	A106.1 N111.3 I
22317	C_7H_{15}-	-O-C_7H_{15}	K83.1	C58 N109.5 I
22318	C_8H_{17}-	-O-C_6H_{13}	K70	C73 N109 I
22320	C_6H_{13}-O-	-O-C_7H_{15}	K82	C88.4 N133.4 I
22321	C_6H_{13}-O-	-O-C_8H_{17}	K85.1	C89.1 N133.3 I
22322	C_7H_{15}-O-	-O-C_7H_{15}	K88.9	C94.7 A105.5 N129.8 I
22323	C_7H_{15}-O-	-O-C_8H_{17}	K82.5	C103.8 A110.7 N132.2 I
22324	C_7H_{15}-O-	-O-C_9H_{19}	K90.4	C103 A113.8 N128 I
22325	C_8H_{17}-O-	-O-C_7H_{15}	K84.7	C93.8 A115.7 N129.7 I
22326	C_8H_{17}-O-	-O-C_8H_{17}	K85.5	C101.8 A119.8 N131 I
22327	C_8H_{17}-O-	-O-C_9H_{19}	K90	C104.2 A122.4 N131.8 I

TABLE 6



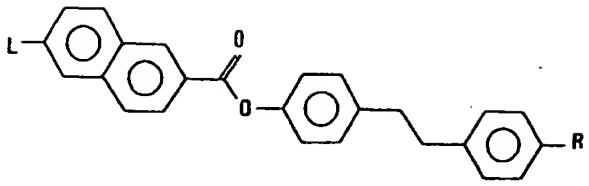
No.	L	R		Cr	LC
22328	C_9H_{19}-O-	-O-C_8H_{17}		K87	C106.3 A122.5 N129.8 I
22329	C_9H_{19}-O-	-O-C_9H_{19}		K89.4	C115.5 A125.7 N128.4 I
22333	C_4H_9-	-CO-C_4H_9		K116	S120 N130 I
22334	$C_{10}H_{21}$-O-	-COO-CH(C_3H_8-/-C_2H_5)$_2$	R	K<30	A25 I
22337	C_8H_{17}-O-	-COO-CHMe-C_8H_{13}	R	K69.3	A62.1 I
22338	$C_{10}H_{21}$-O-	-COO-CHMe-C_8H_{13}	R	K60	A20 U
22341	$C_{10}H_{21}$-O-	-COO-CH_2-CHMe-C_2H_5	1	K85.2	A103.6 I
22342	C_9H_{19}-O-	-CH=CH-COO-$CHCF_2$-C_8H_{13}	R	K51	CA63 A69 I
22343	$C_{10}H_{21}$-O-	-CH=CH-COO-$CHCF_2$-C_8H_{13}	R	K50	CA56 A66 I
22344	$C_{11}H_{23}$-O-	-CH=CH-COO-$CHCF_2$-C_8H_{13}	R	K45	CA52 A61 I
22345	$C_{10}H_{21}$-O-	-COO-$CHCF_2$-C_8H_{13}	1	K<-30	A25 I
22346	$C_{10}H_{21}$-O-	-COO-$CHCF_2$-C_8H_{17}	1	K?	S6 A13.3 I
22347	$C_{10}H_{21}$-O-	-COO-$CHCF_2$-C_8H_{13}	2	K52	A61 I

TABLE 7

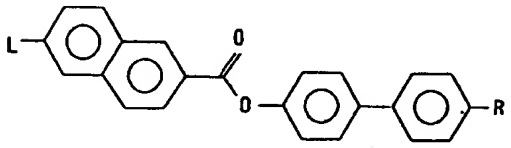


No	L	R		Cr	LC
35478	C_4H_9-O-	-CN		K158	N>300 Z
35479	C_7H_{15}-O-	-CN		K132	N292 Z
35481	C_8H_{17}-O-	-CHMe-COS-C_6H_{13}	1	K89.2	C*120 A140.7 I
35482	C_9H_{19}-O-	-CHMe-COS-C_6H_{13}	1	K86.7	C*125.3 A135.7 I
35483	$C_{10}H_{21}$-O-	-CHMe-COS-C_6H_{13}	1	K85.4	C*127.5 A133.6 I
35484	$C_{11}H_{23}$-O-	-CHMe-COS-C_6H_{13}	1	K83.3	S112.8 C*128.2 A131.1 I
35485	$C_{12}H_{25}$-O-	-CHMe-COS-C_6H_{13}	1	K86.9	S104.8 C*128.6 A129.1 I
35486	$C_{13}H_{27}$-O-	-CHMe-COS-C_6H_{13}	1	K81.9	S102.6 C*128.8 I
35487	$C_{14}H_{29}$-O-	-CHMe-COS-C_6H_{13}	1	K77.4	S103 C*124.4 I
35488	C_7H_{15}-O-	-CHMe-COO-CHMe-C_3H_7	5	K98	C*100.8 A141.8 N*151 I
35489	C_8H_{17}-O-	-CHMe-COO-CHMe-C_3H_7	5	K94.1	C*101.6 A139.1 N*147.9 I
35490	C_9H_{19}-O-	-CHMe-COO-CHMe-C_3H_7	5	K79.1	C*105.9 A134.1 A#? N*142.8 I
35491	$C_{10}H_{21}$-O-	-CHMe-COO-CHMe-C_3H_7	5	K66.9	C*108.4 A#138.6 N*147.9 I
35492	$C_{11}H_{23}$-O-	-CHMe-COO-CHMe-C_3H_7	5	K73.3	C*114.1 A#127.5 N*134.3 I
35493	$C_{12}H_{25}$-O-	-CHMe-COO-CHMe-C_3H_7	5	K69	C*113.4 A#126.4 N*132.6 I
35494	$C_{13}H_{27}$-O-	-CHMe-COO-CHMe-C_3H_7	5	K68.6	C*119.7 A#133.7 N*138.5 I
35495	$C_{14}H_{29}$-O-	-CHMe-COO-CHMe-C_3H_7	5	K71.7	C*119.4 A#132.8 N*136.5 I
35496	C_8H_{17}-O-	-COO-$CHCF_3$-C_6H_{13}	1	K93.5	S147.4 C*150.7 A176.4 I
35497	C_8H_{17}-O-	-COO-$CHCF_3$-C_8H_{17}	1	K84	S133 C*135.6 A163.8 I
35498	C_6H_{13}-$CHCF_3$-OOC-	-O-$C_{10}H_{21}$	1	K?	S10 S75 C*106 A150.5 I

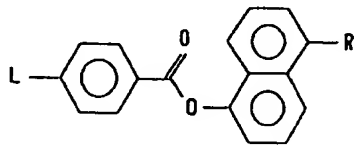
TABLE 8



No	L	R		Cr	LC
46421	C_8H_{17}-	-C_5H_{11}		K54	S142.5 N178 I

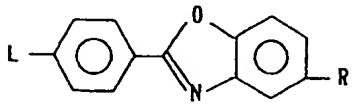


No	L	R		Cr	LC
35500	C_7H_{15}-	-F		K114.9	S187.9 N229.7 I
35501	C_7H_{15}-O-	-CN		K136	N304 Z
35502	H_2C=CH-COO-C_6H_{12}-O-	-NO_2		K134	S>180 Z
35503	C_6H_{13}-$CHCF_3$-OOC-	-$C_{10}H_{21}$	1	K49.5	A127.7 I
35504	C_6H_{13}-$CHCF_3$-OOC-	-O-$C_{10}H_{21}$	1	K35	S100.4 C°124.5 A152.5 I
35505	C_6H_{13}-$CHCF_3$-OOC-	-COO-$C_{10}H_{21}$	1	K40	S96 C°97.7 A123.7 I
35506	C_6H_{13}-$CHCF_3$-OOC-	-OOC-$C_{10}H_{21}$	1	K75	S120 C°156.9 A184.2 I
35507	$C_{10}H_{21}$-O-	-COO-$CHCF_3$-C_6H_{13}	1	K?	S97 C°120 A151.9 I
35508	C_8H_{17}-OOC-	-COO-$CHCF_3$-C_6H_{13}	1	K?	S64.1 C°66 A108.4 I

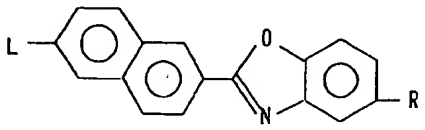


No	L	R		Cr	LC
22447	C_5F_{11}-CH_2-O-	-O-C_8H_{17}		K?	A92 I
22448	C_5F_{11}-CH_2-O-	-O-C_2H_6-CHMe-C_2H_5	1	K?	C°37 A80 I

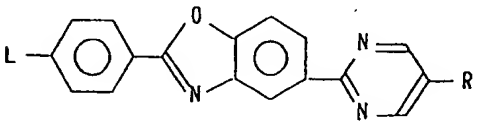
TABLE 9



No	L	R		Cr	LC
7534	C_8H_{17}-	-C_6H_{13}		K39.9	C23 A25.5 I
7538	C_8H_{13}-O-	-C_4H_9		K68.7	C45.1 A55.8 I
7539	$C_{10}H_{21}$-O-	-C_8H_{17}		K57.7	C71.5 A77.3 I
7542	$C_{10}H_{21}$-O-	-O-C_8H_{17}		K60.1	C81.7 A89.1 I
7543	C_8H_{17}-O-	-CO-$C_{10}H_{21}$		K106.9	C103.8 A120.4 I
7545	$C_{10}H_{21}$-O-	-COO-C_8H_{17}		K103.6	A88.2 I
7548	C_8H_{13}-COO-	-C_8H_{17}		K51.8	A64.3 N49.8 U
7549	C_5H_{13}-CHF-CH_2-O-	-C_8H_{17}	1	K77.9	A69.6 I

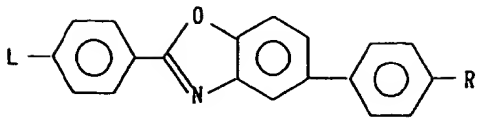


No	L	R		Cr	LC
8788	$C_{10}H_{21}$-O-	-C_4H_9		K90.1	A109.9 I

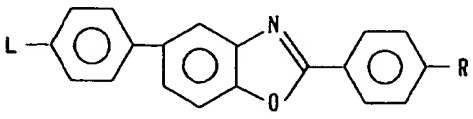


No	L	R		Cr	LC
27629	C_8H_{17}-	-$C_{12}H_{25}$		K76.6	C99.4 N128.2 I

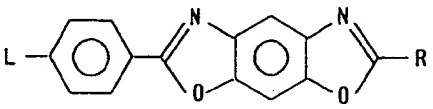
TABLE 10



No	L	R		Cr	LC
28106	C_8H_{17}-	-C_8H_{17}		K77.8	C101.4 N121.8 I

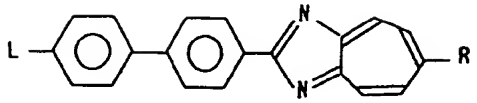


No	L	R		Cr	LC
26603	$C_{10}H_{21}$-	-C_8H_{17}		K77.5	C114.9 N123.8 I
26604	$C_{10}H_{21}$-	-O-$C_{10}H_{21}$		K92.2	C132.8 A135.9 N143.4 I

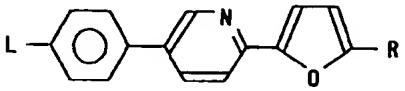


No	L	R		Cr	LC
8726	C_4H_9-	-C_6H_{13}		K90	A96 N106 I

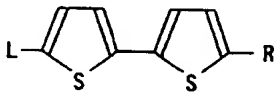
TABLE 11



No	L	R	Cr	LC
27356	H-	-O-C_4H_9	K211	A207 N240 I
27357	H-	-O-C_8H_{17}	K183	B225 A228 U

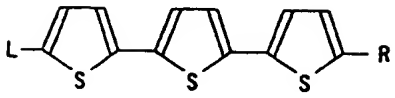


No	L	R	Cr	LC
27633	C_4H_9-	-H	K75	S96 I
27634	C_5H_{11}-	-H	K65	S106 I
27635	C_6H_{13}-	-H	K55	S103 I
27636	C_7H_{15}-	-H	K48	S100 S103 S107 I
27637	C_8H_{17}-	-H	K42	S102 I
27638	C_4H_9-O-	-H	K106	S136 I
27639	C_5H_{11}-O-	-H	K62	S133 I
27640	C_6H_{13}-O-	-H	K76	S133 I
27641	C_7H_{15}-O-	-H	K63	S136 I
27642	C_8H_{17}-O-	-H	K54	S137 I

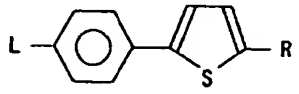


No	L	R	Cr	LC
8268	C_4H_9-S-	-Br	K?	I
8269	C_4H_9-S-	-CN	K30.3	N-63 E
8270	C_7H_{15}-	-C_7H_{15}	K56	I
8278	C_7H_{15}-	-COO-C_2H_5	K84	S47 I
8279	C_4H_9-O-	-COO-C_2H_5	K87	S86 I
8280	C_5H_{11}-O-	-COO-C_2H_5	K72	S90 I
8281	C_6H_{13}-O-	-COO-C_2H_5	K60	S82 I
8282	C_7H_{15}-O-	-COO-C_2H_5	K86	S82 I
8283	C_8H_{17}-O-	-COO-C_2H_5	K72	S84 I

TABLE 12

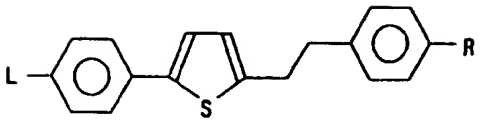


No	L	R	Cr	LC
29065	C_3H_7-	-C_3H_7	K50	S74 I
29066	C_4H_9-	-C_4H_9	K50	S75 I
29067	C_5H_{11}-	-C_5H_{11}	K53	S77 I
29068	C_6H_{13}-	-C_6H_{13}	K51	S82 I
29069	C_7H_{15}-	-C_7H_{15}	K55	G78 F83 C89 I
29070	C_8H_{17}-	-C_8H_{17}	K65	G72 F87 C91 I
29071	C_9H_{19}-	-C_9H_{19}	K64	G62 F91 C95 I
29072	$C_{10}H_{21}$-	-$C_{10}H_{21}$	K71	F95 C96 I
29074	C_4H_9-	-CO-C_3H_7	K148.3	A155.7 I
29075	C_5H_{11}-	-CO-C_4H_9	K137.2	A163 I
29076	C_6H_{13}-	-CO-C_5H_{11}	K138.4	A162 I
29077	C_7H_{15}-	-CO-C_6H_{13}	K132	C138.9 A161.8
29078	C_8H_{17}-	-CO-C_7H_{15}	K133	C151 A159.7 I
29079	C_9H_{19}-	-CO-C_8H_{17}	K129.4	C154.2 A158.7 I
29080	$C_{10}H_{21}$-	-CO-C_9H_{19}	K127	C152 I

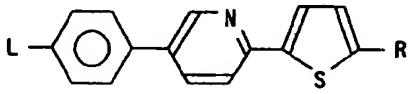


No	L	R	Cr	LC
5713	Br-	-CO-C_7H_{15}	K116.1	A123.8 I
5719	NC-	-C_8H_{17}	K49.9	A20.8 N22.2 I
5723	NC-	-S-C_4H_9	K32.6	N-52 E
5727	$C_4H_9SiMe_2$-C_3H_6-O-	-$C_{10}H_{21}$	K57	S43 I
5730	C_4H_9-S-	-CN	K55.7	N5 E
5732	C_2H_5-O-	-CO-C_7H_{15}	K120.8	A123.1 I
5733	C_3H_7-O-	-CO-C_7H_{15}	K124.4	A122.8 I
5734	C_4H_9-O-	-CO-C_7H_{15}	K127.6	A130.9 I
5735	C_5H_{11}-O-	-CO-C_7H_{15}	K120.5	A127.4 I
5736	C_6H_{13}-O-	-CO-C_7H_{15}	K120	A129.8 I
5737	C_7H_{15}-O-	-CO-C_7H_{15}	K113	A127.4 I
5738	C_8H_{17}-O-	-CO-C_7H_{15}	K109.5	A126.2 I
5739	C_9H_{19}-O-	-CO-C_7H_{15}	K107.5	A123.8 I
5740	$C_{12}H_{25}$-O-	-CO-C_7H_{15}	K100.6	S93.8 A122.2 I

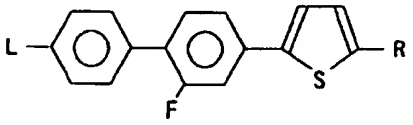
TABLE 13



No	L	R	Cr	LC
36004	C_5H_{11}-	-C_5H_{11}	K21.5	B88.4 A96.7 I
36005	C_6H_{13}-	-C_5H_{11}	K22.5	B94.7 A97.2 I
36006	C_7H_{15}-	-C_5H_{11}	K20.5	B96.2 A99.8 I
36007	C_8H_{17}-	-C_5H_{11}	K21	B96.8 A99.1 I
36008	C_9H_{19}-	-C_5H_{11}	K23.7	B97.2 A100.1 I
36009	$C_{10}H_{21}$-	-C_5H_{11}	K55	B98.4 I

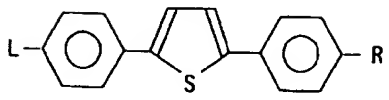


No	L	R	Cr	LC
27648	C_4H_9-O-	-H	K128	S150 I
27649	C_6H_{13}-	-C_2H_5	K56	S155 I
27650	C_4H_9-O-	-C_2H_5	K102	S180 I
27651	C_4H_9-O-	-C_5H_{11}	K61	S176 I

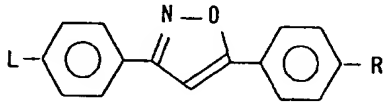


No	L	R	Cr	LC
27643	C_5H_{11}-	-C_5H_{11}	K42.4	C47.9 A62 N97.8 I
27644	C_5H_{11}-	-CO-C_4H_9	K74.9	A186.8 I

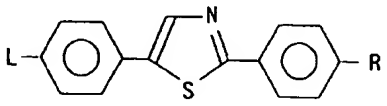
TABLE 14



No	L	R	Cr	LC
25783	C_6H_{13}-	-O-C_6H_{13}	K148	A152 N155 I

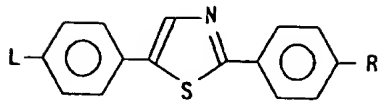


No	L	R	Cr	LC
25800	C_6H_{13}-O-	-O-C_6H_{13}	K110.8	C130.6 N161 I
25801	C_7H_{15}-O-	-O-C_7H_{15}	K109.8	C139.4 N155.8 I
25802	C_8H_{17}-O-	-O-C_8H_{17}	K107.3	C149 N157.3 I
25803	$C_{10}H_{21}$-O-	-O-$C_{10}H_{21}$	K98.6	C147.4 I
25805	H_2C=CH-C_4H_8-O-	-O-C_4H_8-CH=CH_2	K99	A114 N144 I
25806	H_2C=CH-C_9H_{18}-O-	-O-C_9H_{18}-CH=CH_2	K92	A145 I

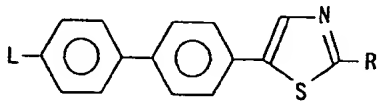


No	L	R	Cr	LC
25816	Me_3Si-C_3H_6-O-	-C_6H_{13}	K96	C109 I
25817	$C_4H_9SiMe_2$-C_3H_6-COO-	-C_6H_{13}	K51	C90 I
25818	C_6H_{13}-	-C_6H_{13}	K68.8	A116.5 N120.1 I
25819	C_9H_{19}-	-C_6H_{13}	K61	C72.2 A126.8 I
25828	C_3H_7-O-	-C_6H_{13}	K79	C70 A101 N147.5 I
25841	C_3H_7-O-	-O-C_8H_{17}	K78	C98 N161 I
25842	C_4H_9-COO-	-C_6H_{13}	K101.9	C128.5 N149.4 I

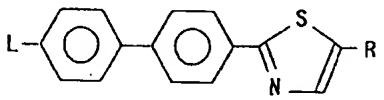
TABLE 15



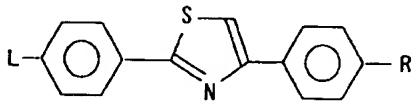
No	L	R	Cr	LC
25843	C_8H_{13}-COO-	-C_6H_{13}	K73.1	S83.2 C139.3 N148.7 I
25844	C_8H_{17}-COO-	-C_6H_{13}	K58	S75.8 C146.4 N148.1 I
25845	C_8H_{17}-COO-	-C_8H_{17}	K59.4	S74.5 S78.5 C148.5 I
25846	$C_{10}H_{21}$-COO-	-C_8H_{13}	K74.9	S86.2 C147 I



No	L	R	Cr	LC
26979	C_6H_{13}-	-C_9H_{19}	K134.2	S166.3 S167.3 I

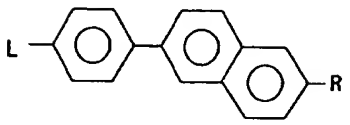


No	L	R	Cr	LC
26980	C_4H_9-	-C_7H_{15}	K76	S130 N137 I

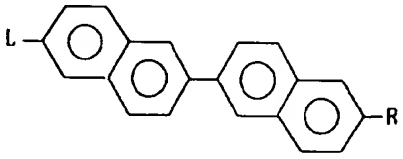


No	L	R	Cr	LC
25848	$C_{10}H_{21}$-	-O-CH_3	K95	N154 U
25849	$C_{10}H_{21}$-	-O-C_6H_{13}	K43	C53 A142 U
25850	$C_{10}H_{21}$-	-O-C_7H_{15}	K54	B64 C110 A143 U
25851	$C_{10}H_{21}$-	-O-C_8H_{17}	K59	B73 C120 A146 U
25852	$C_{10}H_{21}$-	-O-$C_{10}H_{21}$	K66	B84 C137 A144.6 I

TABLE 16

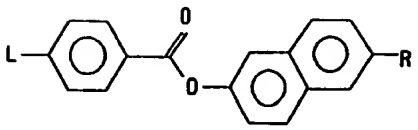


No	L	R	Cr	LC
7226	NC-	$-C_6H_{17}$	K48	A91.5 N113 I
7227	NC-	$-C_5H_{19}$	K44	A95 N104 I
7235	NC-	$-O-C_6H_{17}$	K85	A94 N140 I
7243	NC-	$-OOC-CH=CH-CH_3$	K139	N259 Z
7244	NC-	$-OOC-CH=CH-C_2H_5$	K113	N229 Z

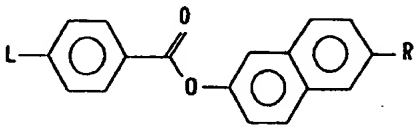


No	L	R	Cr	LC
8776	$C_5H_{11}-$	$-C_5H_{11}$	K146.5	E145.5 A163.5 N171.5 I
8777	$C_6H_{13}-$	$-C_6H_{13}$	K138	E135.5 A156.5 I
8778	$C_7H_{15}-$	$-C_7H_{15}$	K125.5	E135.5 A163 I
8779	$C_8H_{17}-$	$-C_8H_{17}$	K123	E129 A156.5 I
8780	$C_9H_{19}-$	$-C_9H_{19}$	K113.5	E110 A148 I
8783	C_3H_7-O-	$-O-C_3H_7$	K194	A237 N278 I
8784	C_4H_9-O-	$-O-C_4H_9$	K136	E190 A241 N256 I
8785	$C_5H_{11}-O-$	$-O-C_5H_{11}$	K136	E178 A236 N244 I
8786	$C_6H_{13}-O-$	$-O-C_6H_{13}$	K141	E170 A229 I
8787	$C_7H_{15}-O-$	$-O-C_7H_{15}$	K130	E163 N225 I

TABLE 17

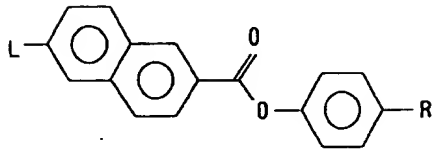


No	L	R		Cr	LC
22138	NC-	-O-C_8H_{17}		K128	A122 N156 I
22139	NC-	-O-C_9H_{19}		K125	A140 N152 I
22140	NC-	-O-$C_{10}H_{21}$		K125	A146 N149 I
22141	NC-	-O-$C_{11}H_{23}$		K122.5	A149 I
22142	NC-	-O-$C_{12}H_{25}$		K123	A151 I
22146	O_2N-	-O-C_8H_{17}		K98	A109 N136 I
22147	O_2N-	-O-C_9H_{19}		K94	A127.5 N135 I
22148	O_2N-	-O-$C_{10}H_{21}$		K93	A135 N135.5 I
22149	O_2N-	-O-$C_{11}H_{23}$		K92	A136.5 I
22150	O_2N-	-O-$C_{12}H_{25}$		K92	A136.5 I
22161	C_5H_{11}-	-CN		K74	A105.9 N131.1 I

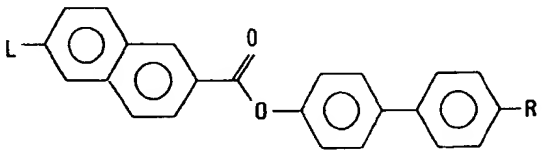


No	L	R		Cr	LC
22168	$C_{10}H_{21}$-O-	-CN		K78	R72 A139 N152 I
22169	$C_{11}H_{23}$-O-	-CN		K79	A146 N149.5 I
22172	C_8H_{17}-S-	-CN		K99	A109.5 N129.5 I
22173	C_9H_{19}-S-	-CN		K107	A122 N127 I
22174	$C_{10}H_{21}$-S-	-CN		K100	A128.5 I
22175	$C_{11}H_{23}$-S-	-CN		K100	A130.5 I
22176	$C_{12}H_{25}$-S-	-CN		K104	A133 I
22181	C_2H_5-CHMe-C_5H_{10}-O-	-CN	S	K80	A122 N*135 I
22182	C_9H_{19}-O-	-COO-C_3H_6-$SiMe_2C_4H_9$		K48	C67 A81 I
22184	C_6H_{13}-O-	-C_5H_{11}		K81	A84.9 N120 I
22185	C_8H_{17}-O-	-C_7H_{15}		K73	A106.1 N111.3 I
22186	$C_{10}H_{21}$-O-	-C_4H_8-CHMe-OOC-C_2H_5	1	K22.1	A9.1 I
22187	$C_{10}H_{21}$-O-	-O-C_2H_4-O-C_4H_9		K63	C72.3 N98.3 I
22188	$C_{10}H_{21}$-O-	-O-CH_2-CHMe-O-C_2H_5	1	K49	C*59 A64 N*73 I

TABLE 18

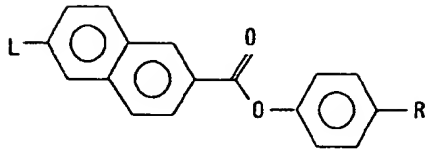


No	L	R		Cr	LC
22305	C_7H_{15}-	-C_7H_{15}		K83.1	C58 N109.5 I
22307	C_6H_{13}-O-	-C_5H_{11}		K81	A85 N120 I
22309	C_8H_{17}-O-	-C_7H_{15}		K73	A106.1 N111.3 I
22317	C_7H_{15}-	-O-C_7H_{15}		K83.1	C58 N109.5 I
22318	C_8H_{17}-	-O-C_6H_{13}		K70	C73 N109 I
22320	C_6H_{13}-O-	-O-C_7H_{15}		K82	C88.4 N133.4 I
22321	C_6H_{13}-O-	-O-C_8H_{17}		K85.1	C89.1 N133.3 I
22322	C_7H_{15}-O-	-O-C_7H_{15}		K88.9	C94.7 A105.5 N129.8 I
22323	C_7H_{15}-O-	-O-C_8H_{17}		K82.5	C103.8 A110.7 N132.2 I
22324	C_7H_{15}-O-	-O-C_9H_{19}		K90.4	C103 A113.8 N128 I
22325	C_8H_{17}-O-	-O-C_7H_{15}		K84.7	C93.8 A115.7 N129.7 I
22326	C_8H_{17}-O-	-O-C_8H_{17}		K85.5	C101.8 A119.8 N131 I
22327	C_8H_{17}-O-	-O-C_9H_{19}		K90	C104.2 A122.4 N131.8 I

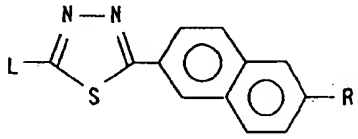


No	L	R		Cr	LC
35500	C_7H_{15}-	-F		K114.9	S187.9 N229.7 I
35502	H_2C=CH-COO-C_6H_{12}-O-	-NO_2		K134	S>180 Z
35503	C_6H_{13}-$CHCF_3$-OOC-	-$C_{10}H_{21}$	1	K49.5	A127.7 I
35504	C_6H_{13}-$CHCF_3$-OOC-	-O-$C_{10}H_{21}$	1	K35	S100.4 C*124.5 A152.5 I
35505	C_6H_{13}-$CHCF_3$-OOC-	-COO-$C_{10}H_{21}$	1	K40	S96 C*97.7 A123.7 I
35506	C_6H_{13}-$CHCF_3$-OOC-	-OOC-$C_{10}H_{21}$	1	K75	S120 C*156.9 A184.2 I
35507	$C_{10}H_{21}$-O-	-COO-$CHCF_3$-C_6H_{13}	1	K?	S97 C*120 A151.9 I
35508	C_8H_{17}-OOC-	-COO-$CHCF_3$-C_6H_{13}	1	K?	S64.1 C*66 A108.4 I

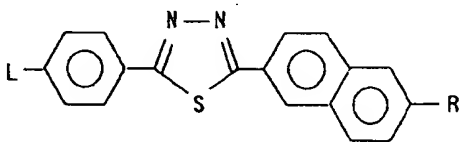
TABLE 19



No	L	R	Cr	LC
24420	C_8H_{17}-	-C_5H_{11}	K44.5	S65 N84 I
24421	C_8H_{17}-	-C_6H_{13}	K46.5	S36.5 N69.5 I

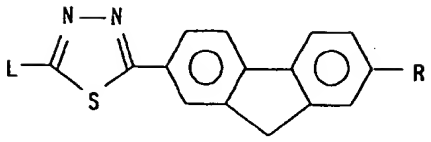


No	L	R	Cr	LC
8289	C_6H_{13}-	-O-C_6H_{13}	K107.4	C114.1 I
8290	C_6H_{13}-	-O-$C_{10}H_{21}$	K92.8	C116.5 I
8291	C_6H_{13}-	-OOC-C_6H_{13}	K81.7	C106.7 A110.9 I

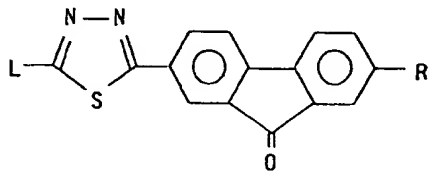


No	L	R	Cr	LC
28262	C_6H_{13}-	-O-C_4H_9	K79.5	C155.1 N230.7 I
28263	$C_{10}H_{21}$	-O-$C_{10}H_{21}$	K80.3	C198.2 I
28265	C_6H_{13}-	-OOC-C_6H_{13}	K82.3	C199.4 N225.2 I

TABLE 20

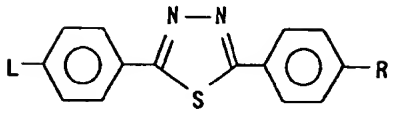


No	L	R	Cr	LC
8292	C_6H_{13}-	-C_8H_{17}	K87.3	S118.6 A186.4 I
8293	C_8H_{17}-	-C_8H_{17}	K82.4	S92.7 C149 A181.2 I



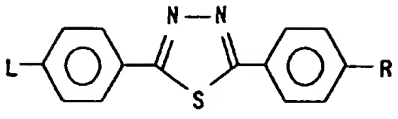
No	L	R	Cr	LC
8294	C_6H_{13}-	-C_8H_{17}	K84.6	S119.5 A147.5 I
8295	C_8H_{17}-	-C_8H_{17}	K34.8	S117.5 A155.2 I

TABLE 21



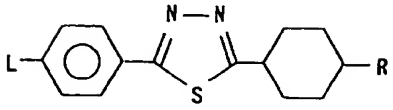
No	L	R	Cr	LC
25914	C_5H_{11}-	-H	K76	N56 U
25915	C_6H_{13}-	-H	K75	S60 N80 I
25916	C_7H_{15}-	-H	K79	S64 N86 I
25917	$C_{12}H_{25}$-	-H	K84	A95 I
25918	C_2H_5-O-	-H	K120	N165 U
25919	C_3H_7-O-	-H	K110	N101 U
25920	C_4H_9-O-	-H	K84	N140 U
25921	C_5H_{11}-O-	-H	K80	N134 U
25922	C_6H_{13}-O-	-H	K80.5	N134 U
25923	C_7H_{15}-O-	-H	K73.5	N149.5 U
25924	C_8H_{17}-O-	-H	K83	N142.5 U
25925	C_9H_{19}-O-	-H	K96	A126 I
25926	$C_{10}H_{21}$-O-	-H	K99	A126 I
25931	C_6H_{13}-O-	-F	K97	A198 I
25932	C_6H_{13}-O-	-Cl	K132	A244 I
25933	C_6H_{13}-O-	-Br	K135	A239 I
25934	C_6H_{13}-	-CN	K118	A220 N233 I
25935	C_5H_{11}-O-	-CN	K142	A246 N265 I
25936	C_6H_{13}-O-	-CN	K146	A258 N264 I
25937	C_8H_{13}-O-	$-NO_2$	K123	A241 I
25938	$C_{10}H_{21}$-	-O-C_4H_8-$SiMe_2C_4H_9$	K46	C122 E
25943	C_5H_{11}-	-C_5H_{11}	K93	C123 N164 I
25944	C_6H_{13}-	-C_6H_{13}	K89	C137 N154 B
25945	C_6H_{13}-	-$C_{10}H_{21}$	K66	C168 N172.9 I
25946	C_7H_{15}-	-C_7H_{15}	K81	C149 N158 I
25947	C_8H_{17}-	-C_8H_{17}	K78	C151 N152 B

TABLE 22

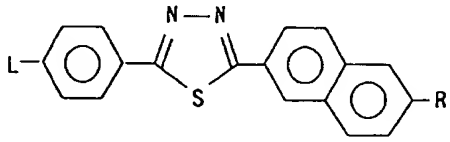


No	L	R		Cr	LC
25949	C_2H_5-	-O-C_7H_{15}		K67	A142 N178 I
25952	C_5H_{11}-	-O-C_6H_{13}		K55	C158 N186 I
25953	C_5H_{11}-	-O-C_8H_{17}		K80	C167 N182 I
25954	C_6H_{13}-	-O-C_4H_9		K80.6	C141 N183.5 I
25955	C_6H_{13}-	-O-C_7H_{15}		K69	A166 N179 I
25956	C_6H_{13}-	-O-C_9H_{19}		K77	C171 N175 I
25957	C_7H_{15}-	-O-C_8H_{17}		K79	C174 N178 I
25958	C_8H_{17}-	-O-C_7H_{15}		K72	A170 N177 I
25960	$C_{10}H_{21}$-	-O-C_7H_{15}		K76	C171 N181 B
25961	$C_{10}H_{21}$-	-O-C_8H_{17}		K79	C173 I
25962	$C_{10}H_{21}$-	-O-$C_{10}H_{21}$		K78	A154 I
25963	$C_{12}H_{25}$-	-O-C_9H_{19}		K74	C169 I
25965	$C_{10}H_{21}$-	-COO-CH_3		K140	A224 I
25966	C_6H_{13}-	-OOC-C_8H_{17}		K58.2	S68.1 C172.6 N176.1 I
25967	$C_{10}H_{21}$-	-OOC-CH_3		K117	C134 N183 I
25968	$C_{10}H_{21}$-	-OOC-C_2H_5		K107	C153 N181 I
25969	$C_{10}H_{21}$-	-OOC-CHMe-O-CH_3	1	K108	C*139 N*140 I
25970	$C_{10}H_{21}$-	-OOC-CHMe-O-C_6H_{13}	1	K110	C*121 I
25971	$C_{10}H_{21}$-	-OCOO-C_4H_9		K64	C146 A147 N166 I
25972	$C_{10}H_{21}$-	-OCOO-C_7H_{15}		K80	C153 N157 I
25974	CH_3-O-	-O-C_8H_{13}		K93	A109 N215 I
25977	C_4H_9-O-	-O-C_4H_9		K145	A156 N222 I

TABLE 23

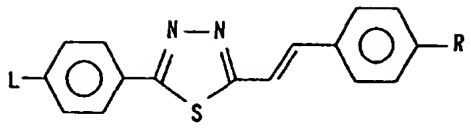


No	L	R		Cr	LC
27803	NC-	$-C_6H_{13}$		K128	A169 N199 I
27804	C_4H_9-	$-C_3H_7$		K76	A96 N150 I
27805	C_4H_9-	$-C_4H_9$		K71	A120 N146 I
27806	C_4H_9-	$-C_5H_{11}$		K52	A115 N138 I
27807	C_4H_9-	$-C_6H_{13}$		K58	A117 N151 I
27808	C_6H_{13}-	$-C_2H_5$		K50	A77 N115 I
27809	C_6H_{13}-	$-C_3H_7$		K61	A126 N146 I
27810	C_6H_{13}-	$-C_4H_9$		K47	A133 N139 I
27811	C_6H_{13}-	$-C_5H_{11}$		K50	A148 N150 I
27812	C_6H_{13}-	$-C_6H_{13}$		K50	A145 I
27815	C_9H_{19}-O-	$-C_4H_9$		K111	A166 N167 I
27816	C_9H_{19}-O-	$-C_6H_{13}$		K108	C130 N169 I
27817	$C_{10}H_{21}$-O-	$-C_6H_{13}$		K105	C122 N165 I
27818	$C_{10}H_{21}$-O-	$-C_7H_{15}$		K87	C143 A169 I
27819	$C_{12}H_{25}$-O-	$-C_6H_{13}$		K58	C136 A146 I
27820	C_4H_9-CMe_2-C_4H_9-O-	$-C_6H_{13}$		K93	C101 A111 N112 I
27821	C_4H_9-CMe_2-C_6H_{12}-O-	$-C_6H_{13}$		K90	C117 A129 N129 I
27823	C_6H_{13}-O-CHMe-COO-	$-C_2H_5$	1	K75	A61 I
27824	$H_2C/CH_2\backslash CH-C_{11}H_{22}$-O-	$-C_5H_{11}$		K111	C113 A156 N157 I

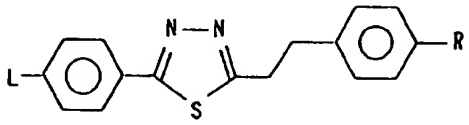


No	L	R		Cr	LC
28262	C_6H_{13}-	-O-C_4H_9		K79.5	C155.1 N230.7 I
28263	$C_{10}H_{21}$-	-O-$C_{10}H_{21}$		K80.3	C198.2 I
28265	C_6H_{13}-	-OOC-C_6H_{13}		K82.3	C199.4 N225.2 I

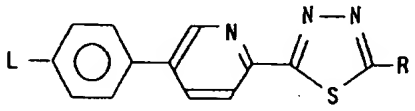
TABLE 24



No	L	R	Cr	LC
32163	H-	-O-C_9H_{19}	K105	S126 I
32165	C_6H_{13}-	-O-C_4H_9	K68	S115 N165 I
32166	C_6H_{13}-	-O-C_9H_{19}	K83	S167 N177 I
32167	C_4H_9-O-	-O-C_4H_9	K103	S117 N210 I
32168	C_4H_9-O-	-O-C_9H_{19}	K105	S141 N195 I
32170	C_6H_{13}-O-	-O-C_5H_{11}	K95	S145 N199 I

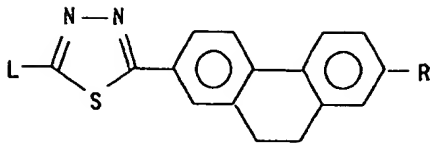


No	L	R	Cr	LC
32162	C_6H_{13}-	-C_4H_9	K56	C89 A123 I

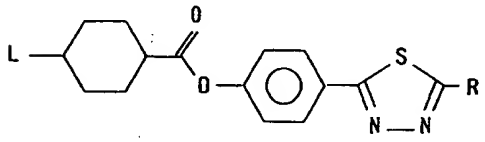


No	L	R	Cr	LC
27671	C_6H_{13}-	-H	K82	S128 I
27672	C_6H_{13}-O-	-H	K95	S152 I
27673	C_4H_9-	-C_5H_{11}	K47	S143 I

TABLE 25

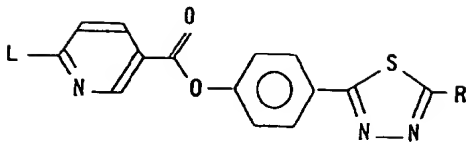


No	L	R		Cr	LC
8296	C_6H_{13}-	-C_8H_{17}		K50.9	A126.6 I
8297	$C_{10}H_{21}$-	-C_8H_{17}		K37.1	A128.7 I
8299	C_6H_{13}-CHF-	-C_8H_{17}	1	K63.4	A132.9 I

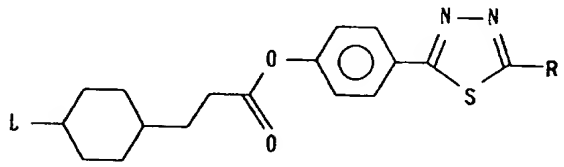


No	L	R		Cr	LC
37286	C_3H_7-	-C_7H_{15}		K95.5	S88 G99.5 C118 A154 N174.5 I
37287	C_3H_7-	-$C_{10}H_{21}$		K76.5	S94.5 S95.5 C120.9 A159.7 N164.4 I
37288	C_4H_9-	-C_9H_{19}		K81	S87 S98 C102 A103 N164 I
37289	C_5H_{11}-	-C_7H_{15}		K50	G101 C105 A173 N176 I
37290	C_5H_{11}-	-$C_{10}H_{21}$		K69.2	S98.4 S107.3 S119.9 S170.6 I
37291	C_6H_{13}-	-C_7H_{15}		K52	G83 C126 A159 N166 I
37292	C_7H_{15}-	-C_7H_{15}		K50	G101 B133 A173 I
37293	C_8H_{17}-	-C_7H_{15}		K62	G94 B134 A172 I
37294	C_5H_{11}-	-CHMe-C_2H_5	2	K55.1	S103.8 A114.7 N120.6 I

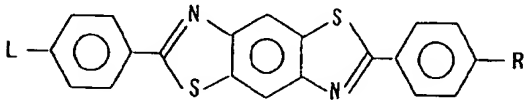
TABLE 26



No	L	R	Cr	LC
36949	C_3H_7-O-	$-C_7H_{15}$	K94	C136 A144 N153 I
36950	C_4H_9-O-	$-C_7H_{15}$	K68	C144 A147 N154 I
36951	C_4H_9-O-	$-C_{11}H_{23}$	K90	C145 A155 I
36952	C_6H_{13}-O-	$-C_7H_{15}$	K68	C103 A171 I

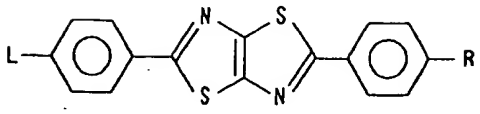


No	L	R	Cr	LC
37296	C_2H_5-	$-C_9H_{19}$	K76	G94 C117 A124 I
37297	C_3H_7-	$-C_9H_{19}$	K83	G105 C112 A130 I
37298	C_4H_9-	$-C_9H_{19}$	K72	G110 C119 A142 I

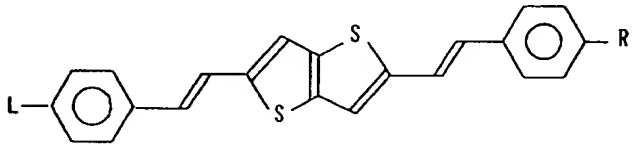


No	L	R	Cr	LC
26651	C_8H_{17}-O-	$-O-C_8H_{17}$	K?	G259 C339.5 N344 I
26652	$C_{12}H_{25}$-O-	$-O-C_{12}H_{25}$	K?	H235 C308 I
26653	$C_{16}H_{33}$-O-	$-O-C_{16}H_{33}$	K?	H229 F272 C290 I

TABLE 27

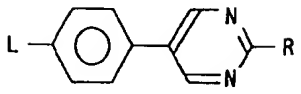


No	L	R	Cr	LC
26625	Cl-	-Cl	K298	C258 N313 I
26628	C_4H_9-	-C_4H_9	K145	C166 N244 I
26629	C_6H_{13}-	-C_6H_{13}	K142	E135 C194 N225 I
26633	C_4H_9-O-	-O-C_4H_9	K197.7	C210.6 N294.2 I
26634	C_5H_{11}-O-	-O-C_5H_{11}	K179.8	I224.1 C270.7 I
26635	C_6H_{13}-O-	-O-C_6H_{13}	K167.4	I232.6 C262.7 I
26636	C_7H_{15}-O-	-O-C_7H_{15}	K160.7	I236.1 C250.3 I
26637	C_8H_{17}-O-	-O-C_8H_{17}	K153.1	I237.1 C244 I
26638	C_9H_{19}-O-	-O-C_9H_{19}	K147.6	I233.7 I
26639	$C_{10}H_{21}$-O-	-O-$C_{10}H_{21}$	K140.6	I226.8 I
26640	$C_{12}H_{25}$-O-	-O-$C_{12}H_{25}$	K129	I221.1 I



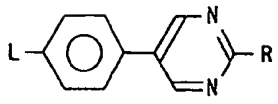
No	L	R	Cr	LC
43323	C_4H_9-	-C_4H_9	K319	S340 A? Z

TABLE 28



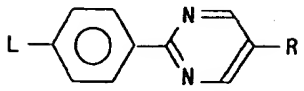
No	L	R	Cr	LC
3978	C_6H_{13}-O-	-S-C_5H_{11}	K24	A71.5 I
3979	C_6H_{13}-O-	-S-C_6H_{13}	K30	A74.5 I
3980	C_6H_{13}-O-	-S-C_7H_{15}	K39.5	A72.5 I
3981	C_6H_{13}-O-	-S-C_8H_{17}	K27	A73 I
3982	C_6H_{13}-O-	-S-C_9H_{19}	K42.5	A72 I
3983	C_6H_{13}-O-	-S-$C_{10}H_{21}$	K31.5	A71.5 I
3984	C_7H_{15}-O-	-S-CH_3	K62.5	A73 I
3985	C_7H_{15}-O-	-S-C_6H_{13}	K40	A74.5 I
3986	C_7H_{15}-O-	-S-C_7H_{15}	K41	C42 A73 I
3987	C_7H_{15}-O-	-S-$C_{10}H_{21}$	K53	A71 I
3988	C_7H_{15}-O-	-S-$C_{11}H_{23}$	K61	A69.5 I
3989	C_8H_{17}-O-	-S-C_6H_{13}	K47	A76 I
3990	C_8H_{17}-O-	-S-C_7H_{15}	K39	G34 C51 A75 I
3991	C_8H_{17}-O-	-S-C_8H_{17}	K51	G40 C55 A75 I
3992	C_8H_{17}-O-	-S-C_9H_{19}	K47.6	G40.5 C54.5 A74.1 I
3993	C_8H_{17}-O-	-S-$C_{10}H_{21}$	K54.8	G42.2 C59.7 A74 I
3994	C_8H_{17}-O-	-S-$C_{11}H_{23}$	K61.4	C53.4 A74.5 I
3995	C_9H_{19}-O-	-S-CH_3	K73	A77.5 I
3996	C_9H_{19}-O-	-S-C_6H_{13}	K48	A76 I
3997	C_9H_{19}-O-	-S-C_8H_{17}	K52	G38.1 C58 A75.8 I
3998	C_9H_{19}-O-	-S-C_9H_{19}	K48.5	G38.5 C57 A74.8 I
3999	C_9H_{19}-O-	-S-$C_{10}H_{21}$	K54.7	G42.2 C59.7 A73.9 I
4000	C_9H_{19}-O-	-S-$C_{11}H_{23}$	K60	C54.7 A73.4 I
4001	$C_{10}H_{21}$-O-	-S-C_6H_{13}	K56	A76.5 I
4002	$C_{10}H_{21}$-O-	-S-C_9H_{19}	K58.8	G54 C69.3 A75.7 I
4003	$C_{10}H_{21}$-O-	-S-$C_{10}H_{21}$	K62.1	G57.8 C71 A75 I
4004	$C_{10}H_{21}$-O-	-O-$C_{11}H_{23}$	K62	S58.6 C70.9 A74.8 I
4005	$C_{11}H_{23}$-O-	-S-$C_{10}H_{21}$	K64.5	G61.8 C73.9 A75 I
4006	$C_{11}H_{23}$-O-	-O-$C_{11}H_{23}$	K65	S63 C74.2 A74.7 I
4016	C_6H_{13}-S-	-C_6H_{13}	K50	A57.5 I

TABLE 29



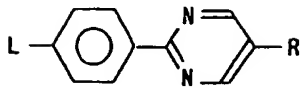
No	L	R		Cr	LC
4017	C_4H_9-S-	-S-C_6H_{13}		K42.5	A42 I
4018	C_6H_{13}-S-	-S-C_6H_{13}		K40	A48.5 I
4019	CH_3-CMe$_2$-C_5H_{10}-O-	-C_8H_{17}		K73	C64 A71 W
4020	CH_3-CMe$_2$-C_5H_{10}-O-	-O-C_9H_{19}		K86	C80 A82 W
4021	CH_3-CMe$_2$-C_5H_{10}-O-	-S-$C_{10}H_{21}$		K60	C53 A55 W
4023	C_6H_{13}-O-C_2H_4-O-C_2H_4-O-	-O-C_9H_{19}		K48	A44 I
4028	C_5H_{11}-COO-	-C_6H_{13}		K79	B85.5 A95 I
4030	$C_{10}H_{21}$-O-	-O-CH_2-CHMe-C_2H_5	S	K63	A69 I
4031	C_8H_{17}-	-O-C_3H_6-CHMe-C_2H_5	1	K51.8	A55 I
4032	$C_{10}H_{21}$-O-	-O-C_3H_6-CHMe-C_2H_5	1	K63	C*57.5 A82 I
4033	$C_{10}H_{21}$-O-	-O-C_2H_4-CHMe-C_3H_6-CHMe-CH_3	1	K45	C*37 A58 I
4034	C_8H_{17}-	-O-C_5H_{10}-CHMe-C_2H_5	1	K46	C*35 A60 I
4035	C_8H_{17}-O-	-C_5H_{10}-CHMe-C_2H_5	S	K36	S46 C*55 A71 I
4036	$C_{10}H_{21}$-O-	-O-C_5H_{10}-CHMe-C_2H_5	1	K77	C*76 A86 I
4037	C_8H_{17}-O-	-S-C_5H_{10}-CHMe-C_2H_5	S	K55.8	S24 C*55.6 A64.3 I
4041	C_5H_{11}-	-S-CF_2-H		K50.8	N-17 E
4042	$C_{10}H_{21}$-O-	-O-C_9H_{18}-CH/CH_2\CH_2		K88	S70.6 C84 A87.6 I
4049	CH_3-CHMe-CHF-COO-	-O-C_9H_{18}-CH/CH_2\CH_2	S	K78	A64 I
4051	C_2H_5-CHMe-CH_2-O-	-C_8H_{17}	1	K51	A66 I
4053	C_2H_5-CHMe-CH_2-O-	-O-$C_{10}H_{21}$	1	K82	A63 I
4055	C_2H_5-CHMe-C_3H_6-O-	-$C_{12}H_{25}$	1	K46	A62 I
4056	C_2H_5-CHMe-C_3H_6-O-	-S-C_8H_{17}	2	K24	C36 A49.8 I
4058	C_2H_5-CHMe-C_5H_{10}-O-	-C_8H_{17}	S	K40.2	G*43.4 C*57.8 A72.3 I
4059	C_2H_5-CHMe-C_5H_{10}-O-	-$C_{12}H_{25}$	1	K57.1	C*58 A68 I
4060	C_2H_5-CHMe-C_5H_{10}-O-	-O-C_8H_{17}	1	K73	C*78 A86 I
4061	C_2H_5-CHMe-C_5H_{10}-O-	-O-C_9H_{19}	S	K77.7	C*79.2 A84.7 I
4062	C_2H_5-CHMe-C_5H_{10}-O-	-S-C_6H_{13}	S	K46	C*51.5 A63 I
4063	C_2H_5-CHMe-C_5H_{10}-O-	-S-C_7H_{15}	S	K44.6	C*52.5 A59.8 I
4064	C_2H_5-CHMe-C_5H_{10}-O-	-S-C_8H_{17}	1	K43	C*55 A60 I
4065	C_2H_5-CHMe-C_5H_{10}-O-	-S-C_9H_{19}	S	K28.1	C*53.5 A60.5 I

TABLE 30



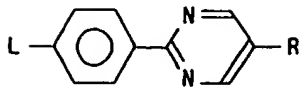
No	L	R	Cr	LC
4178	$Me_3Si-C_5H_{10}-O-$	$-O-C_8H_{17}$	K69	C88 A93 E
4179	$Me_3Si-C_6H_{12}-O-$	$-C_8H_{17}$	K25	C47 A56.6 I
4180	$Me_3Si-C_{10}H_{20}-O-$	$-O-C_8H_{17}$	K41	C84 A92 E
4181	$Me_3Si-C_{11}H_{22}-O-$	$-C_8H_{17}$	K56.7	C63.8 I
4182	$Me_3Si-C_{11}H_{22}-O-$	$-O-C_8H_{17}$	K70	C92 E
4183	$C_4H_9SiMe_2-C_3H_6-O-$	$-O-C_8H_{17}$	K45	C65 A68 E
4184	$C_4H_9SiMe_2-C_4H_8-O-$	$-C_8H_{17}$	K16.7	C22.3 A25.9 I
4185	$C_4H_9SiMe_2-C_4H_8-O-$	$-O-C_8H_{17}$	K16.5	C63.1 A64 I
4186	$C_4H_9SiMe_2-C_5H_{10}-O-$	$-O-C_8H_{17}$	K38	C74 A82 E
4187	$C_4H_9SiMe_2-C_6H_{12}-O-$	$-O-C_8H_{17}$	K22	C72 A78.5 E
4188	$EtMe_2Si-C_4H_8-O-$	$-C_8H_{17}$	K35.2	C30.6 A32.3 I
4189	$EtMe_2Si-C_4H_8-O-$	$-O-C_8H_{17}$	K49.4	C71 A71.3 I
4190	$EtMe_2Si-C_6H_{12}-O-$	$-C_8H_{17}$	K22.6	C41.6 A50.4 I
4191	$EtMe_2Si-C_6H_{12}-O-$	$-O-C_8H_{17}$	K38.6	C78 A84 I
4192	$EtMe_2Si-C_{11}H_{22}-O-$	$-C_8H_{17}$	K45.7	C58.6 A58.9 I
4211	$C_5H_{11}-$	-CN	K94	A93.5 N109 I
4212	$C_6H_{13}-$	-CN	K86.5	A101.5 N103 I
4213	$C_7H_{15}-$	-CN	K96.5	A109 I
4214	$C_9H_{19}-$	-CN	K90	A107 I
4219	$C_5H_{11}-O-$	-CN	K97	A102.5 N133 I
4220	$C_6H_{13}-O-$	-CN	K93.5	A121 N134 I
4221	$C_7H_{15}-O-$	-CN	K102.5	A127 N129.5 I
4222	$C_8H_{17}-O-$	-CN	K102	A133 I
4223	$C_9H_{19}-O-$	-CN	K?	X? I

TABLE 31



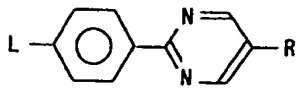
No	L	R	Cr	LC
4229	C_6H_{13}-OCOO-	-CN	K83	A96 N121 I
4230	C_8H_{17}-O-	-O-C_8H_{12}-$SiMe_3$	K38.7	C64.5 I
4231	C_8H_{17}-O-	-O-$C_{11}H_{22}$-$SiMe_3$	K69.4	C92 I
4232	$C_{12}H_{25}$-O-	-O-$C_{11}H_{22}$-$SiMe_3$	K81.6	C89.9 I
4233	C_8H_{17}-O-	-O-C_4H_8-$SiMe_2C_4H_9$	K36.4	A30.6 N30.7 I
4234	C_8H_{17}-O-	-O-C_8H_{12}-$SiMe_2Et$	K28.7	C56 I
4235	$C_{12}H_{25}$-O-	-O-$C_{11}H_{22}$-$SiMe_2Et$	K75.4	C84.9 I
4236	C_5H_{11}-	-C_6H_{13}	K10	A26.5 I
4237	C_5H_{11}-	-C_7H_{15}	K30.6	S47.7 I
4239	C_6H_{13}-	-C_7H_{15}	K21.1	A47.3 I
4240	C_6H_{13}-	-C_8H_{17}	K20.5	A48.4 I
4241	C_7H_{15}-	-C_6H_{13}	K15	A29 I
4242	C_7H_{15}-	-C_8H_{17}	K23.4	A50.3 I
4243	C_7H_{15}-	-C_9H_{19}	K41.1	F24 A59.7 I
4244	C_7H_{15}-	-$C_{10}H_{21}$	K29.8	F33.8 C43.3 A60.6 I
4245	C_7H_{15}-	-$C_{11}H_{23}$	K39.2	F48.4 C53.5 A64.7 I
4246	C_7H_{15}-	-$C_{12}H_{25}$	K41.4	F53.8 C58 A65.2 I
4247	C_7H_{15}-	-$C_{14}H_{29}$	K38.5	F62.7 A67.2 I
4248	C_8H_{17}-	-C_6H_{13}	K18	A29.5 I
4249	C_8H_{17}-	-C_7H_{15}	K18.5	A48.1 I
4250	C_8H_{17}-	-C_8H_{17}	K31.5	A50.2 I
4251	C_8H_{17}-	-C_9H_{19}	K29	F24.6 A59.8 I
4252	C_8H_{17}-	-$C_{10}H_{21}$	K33.6	F36.7 C46.2 A59.8 I
4253	C_8H_{17}-	-$C_{11}H_{23}$	K41	F50.8 C55.4 A64.2 I
4254	C_8H_{17}-	-$C_{12}H_{25}$	K47.5	F55.6 C62.2 A64.2 I
4255	C_8H_{17}-	-$C_{14}H_{29}$	K57.7	F64.5 C66.3 I

TABLE 32



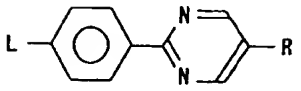
No	L	R	Cr	LC
4256	C_8H_{17}-	-$C_{16}H_{33}$	K56	F67 I
4257	C_9H_{19}-	-C_6H_{13}	K23.5	A30.5 N33 I
4258	C_9H_{19}-	-C_8H_{17}	K27.3	A51.2 I
4259	C_9H_{19}-	-$C_{10}H_{21}$	K32.5	F36.5 C44 A60.7 I
4260	C_9H_{19}-	-$C_{12}H_{25}$	K41	F56.8 C63.2 A65.6 I
4261	$C_{10}H_{21}$-	-C_6H_{13}	K31	A29.3 N31 I
4262	$C_{10}H_{21}$-	-C_8H_{17}	K35.5	A49.7 I
4263	$C_{10}H_{21}$-	-$C_{10}H_{21}$	K46.3	C45 A59.8 I
4264	$C_{10}H_{21}$-	-$C_{11}H_{23}$	K41.2	F52.6 C54.8 A64.6 I
4265	$C_{10}H_{21}$-	-$C_{12}H_{25}$	K48.8	F58 C64 A65 I
4266	$C_{12}H_{25}$-	-C_8H_{17}	K46.8	A48.3 I
4267	$C_{12}H_{25}$-	-$C_{11}H_{23}$	K52.9	F52.2 A63.6 I
4268	$C_{12}H_{25}$-	-$C_{12}H_{25}$	K59.9	F59.7 C64 A64.7 I
4269	C_4H_9-	-O-C_6H_{13}	K42	A72 I
4271	C_6H_{13}-	-O-C_4H_9	K40	A56.5 N60.5 I
4272	C_6H_{13}-	-O-C_5H_{11}	K48	A62 I
4273	C_6H_{13}-	-O-C_6H_{13}	K49	A77 I
4274	C_6H_{13}-	-O-C_7H_{15}	K32.5	C50.6 A76.6 I
4275	C_6H_{13}-	-O-C_8H_{17}	K29	C68 A85 I
4276	C_6H_{13}-	-O-C_9H_{19}	K47.7	C77.2 A83.6 I
4277	C_6H_{13}-	-O-$C_{10}H_{21}$	K38	S35 C82 A87 I
4278	C_6H_{13}-	-O-$C_{11}H_{23}$	K38.8	S42.3 C84.3 A86.4 I
4279	C_6H_{13}-	-O-$C_{12}H_{25}$	K35	S47.4 C85.6 A87.1 I
4280	C_6H_{13}-	-O-$C_{14}H_{29}$	K34.4	S54.9 C85.2 A86.6 I
4281	C_6H_{13}-	-O-$C_{15}H_{31}$	K49.9	S56.7 C83.3 A85.2 I
4283	C_7H_{15}-	-O-C_5H_{11}	K46	A64 N66 I
4284	C_7H_{15}-	-O-C_6H_{13}	K51	A78 I
4285	C_7H_{15}-	-O-C_7H_{15}	K32.2	C45 A77.5 I

TABLE 33



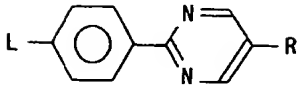
No	L	R	Cr	LC
4286	C_7H_{15}-	-O-C_8H_{17}	K32	C64 A87 I
4287	C_7H_{15}-	-O-C_9H_{19}	K34.2	C76.3 A85.1 I
4288	C_7H_{15}-	-O-$C_{10}H_{21}$	K32	S33 C83 A88 I
4289	C_7H_{15}-	-O-$C_{11}H_{23}$	K38.7	S45.2 C86.8 A88.6 I
4290	C_7H_{15}-	-O-$C_{12}H_{25}$	K46	S54 C88 A89 I
4292	C_8H_{17}-	-O-C_5H_{11}	K47	A61 I
4293	C_8H_{17}-	-O-C_6H_{13}	K46	A76 I
4294	C_8H_{17}-	-O-C_7H_{15}	K46.5	C39 A77.5 I
4295	C_8H_{17}-	-O-C_8H_{17}	K39	C58 A84 I
4296	C_8H_{17}-	-O-C_9H_{19}	K40.5	C76 A84.6 I
4297	C_8H_{17}-	-O-$C_{10}H_{21}$	K42	C84 A88 I
4298	C_8H_{17}-	-O-$C_{11}H_{23}$	K54.3	C87.2 I
4299	C_8H_{17}-	-O-$C_{12}H_{25}$	K57	S58 C89 I
4300	C_8H_{17}-	-O-$C_{14}H_{29}$	K59.8	S67.2 C88.3 I
4301	C_8H_{17}-	-O-$C_{15}H_{31}$	K57.9	S69.6 C87.5 I
4303	C_9H_{19}-	-O-C_5H_{11}	K49	A62 N63 I
4304	C_9H_{19}-	-O-C_6H_{13}	K48	A77 I
4305	C_9H_{19}-	-O-C_7H_{15}	K40	A78 I
4306	C_9H_{19}-	-O-C_8H_{17}	K36	C53 A85 I
4307	C_9H_{19}-	-O-C_9H_{19}	K39	C73.9 A84.9 I
4308	C_9H_{19}-	-O-$C_{10}H_{21}$	K37	S32 C83 A87 I
4309	C_9H_{19}-	-O-$C_{11}H_{23}$	K45	S46 C87 I
4310	C_9H_{19}-	-O-$C_{12}H_{25}$	K47	S59 C89 I
4311	$C_{10}H_{21}$-	-O-C_9H_{19}	K46.6	C71.4 A83.8 I
4312	$C_{10}H_{21}$-	-O-$C_{11}H_{23}$	K51.4	S47 C86.5 I
4326	C_8H_{17}-	-OOC-C_7H_{15}	K79.4	A74.4 I
4334	C_3H_7-O-C_5H_{10}-	-O-C_8H_{17}	K8	C47 A69 I
4335	C_3H_7-O-C_5H_{10}-	-OOC-C_7H_{15}	K70	I

TABLE 34



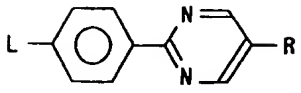
No	L	R		Cr	LC
4336	C_6H_{13}-O-CHMe-	-O-$C_{10}H_{21}$	1	K<-40	C*-40 A-23 I
4337	C_2H_5-O-CHMe-C_5H_{10}-	-O-C_6H_{13}	1	K-22	C*-21 A48 I
4338	C_2H_5-O-CHMe-C_5H_{10}-	-O-C_8H_{17}	1	K?	S8 C*49 A55 I
4339	C_2H_5-O-CHMe-C_5H_{10}-	-O-$C_{10}H_{21}$	1	K?	S10 C*55 I
4340	C_2H_5-O-CHMe-C_5H_{10}-	-O-$C_{11}H_{23}$	1	K27	C*56 I
4341	C_2H_5-O-CHMe-C_5H_{10}-	-O-$C_{12}H_{25}$	1	K13	C*56 I
4342	C_3H_7-O-CHMe-C_5H_{10}-	-O-C_8H_{17}	1	K?	S-6 C*46 A52 I
4343	C_5H_{11}-O-CHMe-C_5H_{10}-	-O-C_8H_{17}	1	K?	S-4 C*37 A44 I
4346	CH_3-O-	-C_9H_{19}		K40	S31 N41 I
4349	C_2H_5-O-	-C_8H_{17}		K42.5	A43.5 N58.5 I
4353	C_3H_7-O-	-C_7H_{15}		K42	A43.5 N52 I
4354	C_3H_7-O-	-C_8H_{17}		K45	A49.5 I
4358	C_4H_9-O-	-C_7H_{15}		K40.5	A42 N64 I
4359	C_4H_9-O-	-C_8H_{17}		K35	A53.5 N60 I
4363	C_5H_{11}-O-	-C_7H_{15}		K49	C48.5 A52 N66 I
4364	C_5H_{11}-O-	-C_8H_{17}		K38	A54 N58 I
4365	C_5H_{11}-O-	-C_9H_{19}		K41	A65.5 I
4366	C_5H_{11}-O-	-$C_{10}H_{21}$		K47.5	A67 I

TABLE 35



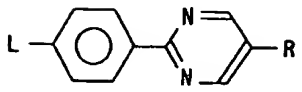
No	L	R	Cr	LC
4370	C_6H_{13}-O-	$-C_7H_{15}$	K45.5	A33 N69.5 I
4371	C_6H_{13}-O-	$-C_8H_{17}$	K27.5	C44.5 A57.5 N65 I
4372	C_6H_{13}-O-	$-C_9H_{19}$	K33.5	C49.5 A71 N71.5 I
4373	C_6H_{13}-O-	$-C_{10}H_{21}$	K32.5	C62 A74.5 I
4377	C_7H_{15}-O-	$-C_7H_{15}$	K44	C44 A49 N68 I
4378	C_7H_{15}-O-	$-C_8H_{17}$	K46	C49 A61 N66 I
4379	C_7H_{15}-O-	$-C_9H_{19}$	K35	C51.5 A71.5 I
4380	C_7H_{15}-O-	$-C_{10}H_{21}$	K46	C62.5 A72 I
4384	C_8H_{17}-O-	$-C_7H_{15}$	K49	A44 N69.5 I
4385	C_8H_{17}-O-	$-C_8H_{17}$	K35	C57 A64 N70 I
4386	C_8H_{17}-O-	$-C_9H_{19}$	K33	C60 A74.5 I
4387	C_8H_{17}-O-	$-C_{10}H_{21}$	K37	C68.5 A73.5 I
4391	C_9H_{19}-O-	$-C_7H_{15}$	K48	C51 A57 N70 I
4392	C_9H_{19}-O-	$-C_8H_{17}$	K33	C56 A65 N68.5 I
4393	C_9H_{19}-O-	$-C_9H_{19}$	K34	C61 A75 I
4394	C_9H_{19}-O-	$-C_{11}H_{23}$	K45	C78 A80 I
4397	$C_{10}H_{21}$-O-	$-C_7H_{15}$	K53	A54.5 N71.5 I

TABLE 36



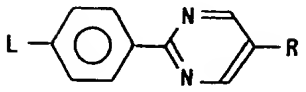
No	L	R		Cr	LC
4398	$C_{10}H_{21}$-O-	-C_8H_{17}		K32	C59.5 A65.5 N69.5 I
4399	$C_{10}H_{21}$-O-	-$C_{10}H_{21}$		K41	C74 A77 I
4401	$C_{11}H_{23}$-O-	-C_7H_{15}		K55	C54.5 A62.5 N70 I
4402	$C_{11}H_{23}$-O-	-C_8H_{17}		K44.5	C60 A67 N69 I
4405	$C_{12}H_{25}$-O-	-C_7H_{15}		K59.5	C57.5 A63 N71 I
4406	$C_{12}H_{25}$-O-	-C_8H_{17}		K42	C61.5 A68.5 N70 I
4408	$C_{10}H_{21}$-O-	-C_5H_{10}-CHMe-O-C_2H_5	1	K43	C°13 N°27 I
4409	C_3H_7-O-	-O-C_7H_{15}		K68.6	C65 A78.7 N83.6 I
4410	C_3H_7-O-	-O-C_8H_{17}		K49.8	C70.5 A88.2 N88.7 I
4411	C_3H_7-O-	-O-C_9H_{19}		K43.7	C72 A89.4 I
4412	C_3H_7-O-	-O-$C_{10}H_{21}$		K45.6	C71 A92.6 I
4413	C_3H_7-O-	-O-$C_{11}H_{23}$		K41.9	C68 A93 I
4414	C_3H_7-O-	-O-$C_{12}H_{25}$		K43.4	C61.6 A94.1 I
4415	C_4H_9-O-	-O-C_7H_{15}		K53.4	C75.1 A82.4 N92.1 I
4416	C_4H_9-O-	-O-C_8H_{17}		K54.4	C84 A94.7 N96.6 I
4417	C_4H_9-O-	-O-C_9H_{19}		K44.4	C87.7 A96.6 I
4418	C_4H_9-O-	-O-$C_{10}H_{21}$		K41.8	C90 A99.4 I
4419	C_4H_9-O-	-O-$C_{11}H_{23}$		K42.3	C89 A99.8 I
4420	C_4H_9-O-	-O-$C_{12}H_{25}$		K41.8	C88.4 A101 I
4422	C_5H_{11}-O-	-O-C_8H_{17}		K62	C65.9 A76.6 N92.7 I
4423	C_5H_{11}-O-	-O-C_7H_{15}		K54.4	C77.4 A84.2 N91.3 I
4424	C_5H_{11}-O-	-O-C_8H_{17}		K50.2	C85.9 A93.9 N94.8 I
4425	C_5H_{11}-O-	-O-C_9H_{19}		K66.7	C90 A95 I
4426	C_5H_{11}-O-	-O-$C_{10}H_{21}$		K41.4	C93.9 A97.2 I
4427	C_5H_{11}-O-	-O-$C_{11}H_{23}$		K51.4	C95.9 A98.2 I
4428	C_5H_{11}-O-	-O-$C_{12}H_{25}$		K41.7	C96.2 A98.6 I

TABLE 37



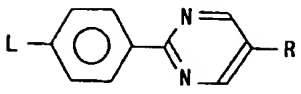
No	L	R	Cr	LC
4429	C_6H_{13}-O-	-O-C_6H_{13}	K62	A68 N69 I
4430	C_6H_{13}-O-	-O-C_7H_{15}	K45.8	C80.6 A84.7 N94.9 I
4431	C_6H_{13}-O-	-O-C_8H_{17}	K42.6	C89.8 A96.6 N98.7 I
4432	C_6H_{13}-O-	-O-C_9H_{19}	K49.9	C94.4 A97.9 I
4433	C_6H_{13}-O-	-O-$C_{10}H_{21}$	K43.8	C98.7 A100.3 I
4434	C_6H_{13}-O-	-O-$C_{11}H_{23}$	K55.4	C100.4 A101 I
4435	C_6H_{13}-O-	-O-$C_{12}H_{25}$	K52.2	C102.2 I
4436	C_7H_{15}-O-	-O-C_6H_{13}	K60.8	C68.2 A79.4 N94.6 I
4437	C_7H_{15}-O-	-O-C_7H_{15}	K59.2	C79.9 A87.6 N93.6 I
4438	C_7H_{15}-O-	-O-C_8H_{17}	K51.6	C87.2 A96.4 N97.1 I
4439	C_7H_{15}-O-	-O-C_9H_{19}	K56	C94.9 A97.8 I
4440	C_7H_{15}-O-	-O-$C_{10}H_{21}$	K55.6	C99.6 A100.3 I
4441	C_7H_{15}-O-	-O-$C_{11}H_{23}$	K67.4	C100.1 I
4442	C_7H_{15}-O-	-O-$C_{12}H_{25}$	K54.8	C100.3 I
4444	C_8H_{17}-O-	-O-C_6H_{13}	K59.3	C73 A80 N96.2 I
4445	C_8H_{17}-O-	-O-C_7H_{15}	K53.4	C81.5 A88.3 N95.4 I
4446	C_8H_{17}-O-	-O-C_8H_{17}	K51	C92.3 A99.5 N100.3 I
4447	C_8H_{17}-O-	-O-C_9H_{19}	K48.2	C96.4 A99 I
4448	C_8H_{17}-O-	-O-$C_{10}H_{21}$	K51.7	C101.7 A102.1 I
4449	C_8H_{17}-O-	-O-$C_{11}H_{23}$	K59.9	C101.7 I
4450	C_8H_{17}-O-	-O-$C_{12}H_{25}$	K57.1	C102.9 I
4451	C_9H_{19}-O-	-O-C_6H_{13}	K61.6	C68.9 A83.2 N93.7 I
4452	C_9H_{19}-O-	-O-C_7H_{15}	K55.2	C78.7 A89.6 N93.6 I
4453	C_9H_{19}-O-	-O-C_8H_{17}	K55.1	C87.5 A96.2 I
4454	C_9H_{19}-O-	-O-C_9H_{19}	K65	C97 A101 I
4455	C_9H_{19}-O-	-O-$C_{10}H_{21}$	K52.5	C101.1 I
4456	C_9H_{19}-O-	-O-$C_{11}H_{23}$	K62	C101 I
4457	C_9H_{19}-O-	-O-$C_{12}H_{25}$	K60.3	C100.3 I
4458	$C_{10}H_{21}$-O-	-O-C_6H_{13}	K62.3	C71.6 A83.8 N93.6 I

TABLE 38



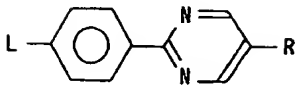
No	L	R	Cr	LC
4459	$C_{10}H_{21}$-O-	-O-C_7H_{15}	K50.4	C79.7 A90.1 N93.6 I
4460	$C_{10}H_{21}$-O-	-O-C_8H_{17}	K50	C89 A99.6 I
4461	$C_{10}H_{21}$-O-	-O-C_9H_{19}	K52.3	C96.2 A99 I
4462	$C_{10}H_{21}$-O-	-O-$C_{10}H_{21}$	K52.7	C101.4 I
4463	$C_{10}H_{21}$-O-	-O-$C_{11}H_{23}$	K62.9	C101.2 I
4464	$C_{10}H_{21}$-O-	-O-$C_{12}H_{25}$	K65.4	C102.8 I
4465	$C_{10}H_{21}$-O-	-O-$C_{14}H_{29}$	K67	C103 I
4466	$C_{11}H_{23}$-O-	-O-C_6H_{13}	K69.3	C69 A86.2 N91.8 I
4467	$C_{11}H_{23}$-O-	-O-C_7H_{15}	K58.2	C77 A90.1 N91.9 I
4468	$C_{11}H_{23}$-O-	-O-C_8H_{17}	K56	C84.9 A97.1 I
4469	$C_{11}H_{23}$-O-	-O-C_9H_{19}	K56.2	C92.7 A96.1 I
4470	$C_{11}H_{23}$-O-	-O-$C_{10}H_{21}$	K53.1	C100.6 I
4471	$C_{11}H_{23}$-O-	-O-$C_{11}H_{23}$	K69.8	C99.8 I
4472	$C_{11}H_{23}$-O-	-O-$C_{12}H_{25}$	K65.6	C101 I
4473	$C_{11}H_{23}$-O-	-O-$C_{16}H_{33}$	K71.3	S75.6 C100.9 I
4474	$C_{12}H_{25}$-O-	-O-C_6H_{13}	K70.3	C70.7 A86.2 N91.4 I
4475	$C_{12}H_{25}$-O-	-O-C_7H_{15}	K57.1	C77.2 A89.4 N90.9 I
4476	$C_{12}H_{25}$-O-	-O-C_8H_{17}	K50	C86 A98 I
4477	$C_{12}H_{25}$-O-	-O-C_9H_{19}	K53.8	C93.5 A96.9 I
4478	$C_{12}H_{25}$-O-	-O-$C_{10}H_{21}$	K54.6	C100.3 I
4479	$C_{12}H_{25}$-O-	-O-$C_{11}H_{23}$	K59.5	C100.7 I
4480	$C_{12}H_{25}$-O-	-O-$C_{12}H_{25}$	K63.7	C104.3 I
4481	$C_{12}H_{25}$-O-	-O-$C_{16}H_{33}$	K71.2	S73.7 C99 I
4484	C_8H_{17}-O-	-O-C_4H_8-CMe_2-C_4H_9	K54	C34 N37 I
4485	C_8H_{17}-O-	-O-C_6H_{12}-CMe_2-C_4H_9	K43	C55 I
4498	C_7H_{15}-O-	-OOC-C_6H_{13}	K64.9	C66.2 N85.8 I
4499	C_7H_{15}-O-	-OOC-C_9H_{19}	K74.8	C96.5 I
4500	C_7H_{15}-O-	-OOC-$C_{13}H_{27}$	K81	S73 C101 I
4501	C_8H_{17}-O-	-OOC-C_6H_{13}	K63.4	C69.7 N89.7 I
4502	C_8H_{17}-O-	-OOC-C_7H_{15}	K75	C74.4 N91.3 I

TABLE 39



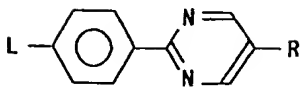
No	L	R		Cr	LC
4614	C_7H_{15}-COO-	$-C_7H_{15}$		K54	A40 N57 I
4615	C_7H_{15}-COO-	$-C_8H_{17}$		K51	C52 A54 N56 I
4616	C_7H_{15}-COO-	$-C_9H_{19}$		K53	C64 A65 I
4619	C_8H_{17}-COO-	$-C_8H_{17}$		K49	C53.5 A54.8 N56.5 I
4620	C_8H_{17}-COO-	$-C_{10}H_{21}$		K53	S50 C70 I
4623	C_9H_{19}-COO-	$-C_8H_{17}$		K42	C55.5 N59.8 I
4626	$C_{10}H_{21}$-COO-	$-C_8H_{17}$		K57	C56.5 A56.7 N59 I
4629	$C_{11}H_{23}$-COO-	$-C_8H_{17}$		K56	C57.5 N60.8 I
4630	C_7H_{15}-COO-	$-O-C_8H_{17}$		K73	C89 A92 N93 I
4636	C_4H_9-CMe_2-CH_2-COO-	$-O-C_8H_{17}$		K53	C49 N50 I
4637	C_6H_{13}-CMe_2-CH_2-COO-	$-O-C_8H_{17}$		K45	C42 N46 I
4643	C_5H_{11}-OCOO-	$-C_{12}H_{25}$		K48	A52 I
4645	C_9H_{19}-OCOO-	$-C_{12}H_{25}$		K46	C59 I
4647	$C_{12}H_{25}$-OCOO-	$-C_{12}H_{25}$		K57	C60 I
4661	C_8H_{17}-O-	$-C_3H_6$-CHMe-C_2H_5	1	K33.5	N*19U
4662	C_9H_{19}-O-	$-C_3H_6$-CHMe-C_2H_5	1	K35	N*20U
4663	$C_{10}H_{21}$-O-	$-C_3H_6$-CHMe-C_2H_5	1	K38	N*21.5U
4664	$C_{12}H_{25}$-O-	$-C_3H_6$-CHMe-C_2H_5	1	K43.5	N*40.5U
4665	C_8H_{17}-	$-O-C_5H_{10}$-CHMe-C_2H_5	1	K-13	S10 S18 C*51 A51.4 I
4666	C_8H_{17}-	$-O-C_5H_{10}$-CHMe-C_2H_5	2	K16	C57.5 A59 I

TABLE 40



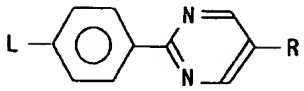
No	L	R		Cr	LC
4697	C_8H_{17}-O-	-O-CH_2-CHF-C_8H_{17}	1	K62.5	C°92 A97 I
4698	C_9H_{19}-O-	-O-CH_2-CHF-C_6H_{13}	1	K61	C°90.3 A96.2 I
4699	$C_{10}H_{21}$-O-	-O-CH_2-CHF-C_6H_{13}	1	K47	C°90 A97 I
4700	$C_{12}H_{25}$-O-	-O-CH_2-CHF-C_6H_{13}	1	K66	C°89 A96 I
4701	C_8H_{17}-	-C_2H_4-CHF-C_6H_{13}	1	K31	C°25 A62 I
4702	C_8H_{17}-O-	-C_2H_4-CHF-C_6H_{13}	S	K74	A82 I
4703	$C_{10}H_{21}$-O-	-C_2H_4-CHF-C_6H_{13}	1	K71	C°69 A82 I
4704	$C_{10}H_{21}$-O-	-C_2H_4-CHF-C_8H_{17}	S	K85	C°84 A86 I
4705	$C_{12}H_{25}$-O-	-C_2H_4-CHF-C_6H_{13}	S	K74	A82 I
4706	$C_{10}H_{21}$-O-	-O-C_2H_4-CHF-C_6H_{13}	1	K50	C°96 N°97 I
4707	$C_{10}H_{21}$-O-	-O-C_3H_6-CHF-C_6H_{13}	1	K61	C°102 A103 I
4715	C_3H_7-O-C_5H_{10}-	-OOC-CH=CH-C_7H_{15}		K63	C61 N69 I
4716	C_3H_7-O-C_5H_{10}-	-OOC-CH=CH-C_8H_{17}		K53	C62 A64 N68 I
4717	C_3H_7-O-C_5H_{10}-	-OOC-CH=CH-C_9H_{19}		K63	C73 I
4718	C_6H_{13}-	-O-CH_2-CH=CH-C_2H_5		K57	A63 I
4719	C_6H_{13}-	-O-CH_2-CH=CH-C_3H_7		K67	A76 I
4720	C_6H_{13}-	-O-CH_2-CH=CH-C_4H_9		K62	C65 A71 I
4721	C_6H_{13}-	-O-CH_2-CH=CH-C_5H_{11}		K61	C76 A80 I
4722	C_6H_{13}-	-O-CH_2-CH=CH-C_6H_{13}		K74	C78 I
4723	C_6H_{13}-	-O-CH_2-CH=CH-C_7H_{15}		K65	C82 I
4724	C_6H_{13}-	-O-CH_2-CH=CH-C_8H_{17}		K73	C82 I
4725	C_6H_{13}-	-O-CH_2-CH=CH-C_9H_{19}		K56	S72 C84 I
4726	C_7H_{15}-	-O-CH_2-CH=CH-C_2H_5		K53	A66 I
4727	C_7H_{15}-	-O-CH_2-CH=CH-C_3H_7		K69	A78 I
4728	C_7H_{15}-	-O-CH_2-CH=CH-C_4H_9		K60	C61 A73 I
4729	C_7H_{15}-	-O-CH_2-CH=CH-C_5H_{11}		K59	C75 A82 I
4730	C_7H_{15}-	-O-CH_2-CH=CH-C_6H_{13}		K67	C80 I

TABLE 41



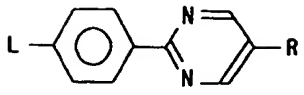
No	L	R	Cr	LC
4731	C_7H_{15}-	-O-CH_2-CH=CH-C_7H_{15}	K64	C86 I
4732	C_7H_{15}-	-O-CH_2-CH=CH-C_8H_{17}	K72	C85 I
4733	C_7H_{15}-	-O-CH_2-CH=CH-C_9H_{19}	K67	S74 C87 I
4734	C_8H_{17}-	-O-CH_2-CH=CH-C_2H_5	K53	A65 I
4735	C_8H_{17}-	-O-CH_2-CH=CH-C_3H_7	K68	A77 I
4736	C_8H_{17}-	-O-CH_2-CH=CH-C_4H_9	K57	A73 I
4737	C_8H_{17}-	-O-CH_2-CH=CH-C_5H_{11}	K56	C69.5 A81 I
4738	C_8H_{17}-	-O-CH_2-CH=CH-C_6H_{13}	K67	C79 I
4739	C_8H_{17}-	-O-CH_2-CH=CH-C_7H_{15}	K39	S62 C84 I
4740	C_8H_{17}-	-O-CH_2-CH=CH-C_8H_{17}	K51	S67 C85 I
4741	C_8H_{17}-	-O-CH_2-CH=CH-C_9H_{19}	K66	S74 C86 I
4742	C_9H_{19}-	-O-CH_2-CH=CH-C_2H_5	K57	A66 I
4743	C_9H_{19}-	-O-CH_2-CH=CH-C_3H_7	K70	A77 I
4744	C_9H_{19}-	-O-CH_2-CH=CH-C_4H_9	K57	C48 A73 I
4745	C_9H_{19}-	-O-CH_2-CH=CH-C_5H_{11}	K56	C65 A82 I
4746	C_9H_{19}-	-O-CH_2-CH=CH-C_6H_{13}	K62	C78 A80 I
4747	C_9H_{19}-	-O-CH_2-CH=CH-C_7H_{15}	K60	S58 C84 I
4748	C_9H_{19}-	-O-CH_2-CH=CH-C_8H_{17}	K50	S63 C86 I
4749	C_9H_{19}-	-O-CH_2-CH=CH-C_9H_{19}	K61	S74 C87 I
4750	C_3H_7-O-C_5H_{10}-	-O-CH_2-CH=CH-C_3H_7	K47	A56 I
4751	C_3H_7-O-C_5H_{10}-	-O-CH_2-CH=CH-C_4H_9	K20	A41 I
4752	C_3H_7-O-C_5H_{10}-	-O-CH_2-CH=CH-C_5H_{11}	K36	C58 A63 I
4753	C_3H_7-O-C_5H_{10}-	-O-CH_2-CH=CH-C_6H_{13}	K51	C60 I
4754	C_3H_7-O-C_5H_{10}-	-O-CH_2-CH=CH-C_7H_{15}	K44	C65 I
4755	C_3H_7-O-C_5H_{10}-	-O-CH_2-CH=CH-C_8H_{17}	K50	S49 C68 I
4756	C_3H_7-O-C_5H_{10}-	-O-CH_2-CH=CH-C_9H_{19}	K53	S59 C71 I
4760	C_6H_{13}-	-O-C_3H_6-CH=CH_2	K39	A69 I
4761	C_6H_{13}-	-O-C_3H_6-CH=CH-C_3H_7	K57	C68 A80 I
4762	C_7H_{15}-	-O-C_3H_6-CH=CH_2	K48	A72 I

TABLE 42



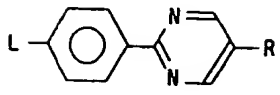
No	L	R	Cr	LC
4763	C_7H_{15}-	-O-C_3H_6-CH=CH-C_3H_7	K57	C66 A82 I
4764	C_8H_{17}-	-O-C_3H_6-CH=CH_2	K43	A69 I
4765	C_8H_{17}-	-O-C_3H_6-CH=CH-C_3H_7	K53	C55 A82 I
4766	C_9H_{19}-	-O-C_3H_6-CH=CH_2	K50	A70 I
4767	C_9H_{19}-	-O-C_3H_6-CH=CH-C_3H_7	K47	C52 A82 I
4769	C_6H_{13}-	-O-C_4H_8-CH=CH_2	K35	A64 I
4770	C_7H_{15}-	-O-C_4H_8-CH=CH_2	K37	A67 I
4771	C_8H_{17}-	-O-C_4H_8-CH=CH_2	K33	A64 I
4772	C_9H_{19}-	-O-C_4H_8-CH=CH_2	K33	A65 I
4774	C_3H_7-O-C_5H_{10}-	-O-C_4H_8-CH=CH_2	K18	A55 I
4776	C_6H_{13}-	-O-C_5H_{10}-CH=CH_2	K34	A79 I
4777	C_6H_{13}-	-O-C_5H_{10}-CH=CH-CH_3	K45	C50 A85 I
4778	C_7H_{15}-	-O-C_5H_{10}-CH=CH_2	K35	A81 I
4779	C_7H_{15}-	-O-C_5H_{10}-CH=CH-CH_3	K48	A87 I
4780	C_8H_{17}-	-O-C_5H_{10}-CH=CH_2	K37	A80 I
4781	C_8H_{17}-	-O-C_5H_{10}-CH=CH-CH_3	K44	A85 I
4782	C_9H_{19}-	-O-C_5H_{10}-CH=CH_2	K38	A81 I
4783	C_9H_{19}-	-O-C_5H_{10}-CH=CH-CH_3	K51	A86 I
4785	C_3H_7-O-C_5H_{10}-	-O-C_5H_{10}-CH=CH_2	K10	A59 I
4786	C_3H_7-O-C_5H_{10}-	-O-C_5H_{10}-CH=CH-CH_3	K21	A70 I
4788	C_6H_{13}-	-O-C_6H_{12}-CH=CH_2	K26	C54 A75 I
4789	C_7H_{15}-	-O-C_6H_{12}-CH=CH_2	K24	C50 A78 I
4790	C_8H_{17}-	-O-C_6H_{12}-CH=CH_2	K42	C43 A76 I
4791	C_9H_{19}-	-O-C_6H_{12}-CH=CH_2	K34	C38 A77 I
4792	C_3H_7-O-C_5H_{10}-	-O-C_6H_{12}-CH=CH_2	K15	C35 A60 I
4793	C_6H_{13}-	-O-C_7H_{14}-CH=CH_2	K20	C65 A81 I
4794	C_7H_{15}-	-O-C_7H_{14}-CH=CH_2	K16	S23 C62 A84 I
4795	C_8H_{17}-	-O-C_7H_{14}-CH=CH_2	K20	C60 A83 I
4796	C_9H_{19}-	-O-C_7H_{14}-CH=CH_2	K30	C53 A84 I
4797	C_3H_7-O-C_5H_{10}-	-O-C_7H_{14}-CH=CH_2	K-30	C30 A61 I

TABLE 43



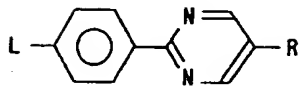
No	L	R	Cr	LC
4798	C_6H_{13}-	-O-C_8H_{16}-CH=CH_2	K33	S35 C73 A80 I
4799	C_7H_{15}-	-O-C_8H_{16}-CH=CH_2	K32	S33 C72 A82 I
4800	C_8H_{17}-	-O-C_8H_{16}-CH=CH_2	K36	C72 A81 I
4801	C_9H_{19}-	-O-C_8H_{16}-CH=CH_2	K35	C71 A82 I
4802	C_3H_7-O-C_5H_{10}-	-O-C_8H_{16}-CH=CH_2	K-3	C57 A64 I
4803	C_6H_{13}-	-O-C_9H_{18}-CH=CH_2	K29	S28 C76 A82 I
4804	C_6H_{13}-	-O-$C_{10}H_{20}$-CH=CH_2	K33	S35 C76 A81 I
4805	C_7H_{15}-	-O-C_9H_{18}-CH=CH_2	K28	S29 C77 A85 I
4806	C_7H_{15}-	-O-$C_{10}H_{20}$-CH=CH_2	K38	S40 C79 A84 I
4807	C_8H_{17}-	-O-C_9H_{18}-CH=CH_2	K38	C78 A84 I
4808	C_8H_{17}-	-O-$C_{10}H_{20}$-CH=CH_2	K43	C80 A82 I
4809	C_9H_{19}-	-O-C_9H_{18}-CH=CH_2	K38	C78 A85 I
4810	C_9H_{19}-	-O-$C_{10}H_{20}$-CH=CH_2	K43	C82 A83 I
4811	C_3H_7-O-C_5H_{10}-	-O-C_9H_{18}-CH=CH_2	K0	C55 A65 I
4812	C_3H_7-O-C_5H_{10}-	-O-$C_{10}H_{20}$-CH=CH_2	K19	S36 S59 C70 I
4817	C_6H_{13}-	-O-C_2H_4-CH*CH-C_4H_9	K52	A43 I
4818	C_9H_{19}-	-O-C_2H_4-CH*CH-C_4H_9	K52	A44 I
4822	C_6H_{13}-	-O-C_4H_8-CH*CH-C_2H_5	K45	C52 A55 I
4823	C_7H_{15}-	-O-C_4H_8-CH*CH-C_2H_5	K42	C52 A55 I
4824	C_8H_{17}-	-O-C_4H_8-CH*CH-C_2H_5	K38	C46 A57 I
4825	C_9H_{19}-	-O-C_4H_8-CH*CH-C_2H_5	K38	C44 A58 I
4826	C_3H_7-O-C_5H_{10}-	-O-C_4H_8-CH*CH-C_2H_5	K10	C33 A37 I
4828	C_9H_{19}-O-	-O-C_4H_8-O-CH_2-CH/CH_2\CH_2	K72.4	C58.4 N72 I
4829	C_6H_{13}-O-	-O-C_4H_8-CH/CH_2\CH_2	K64	C48 N88 U
4830	C_4H_9-O-C_4H_8-O-	-O-C_4H_8-CH/CH_2\CH_2	K42	C45 A47 N64 I
4831	C_6H_{13}-O-	-O-C_5H_{10}-CH/CH_2\CH_2	K53	C73 A75 N86 I
4832	C_4H_9-O-C_4H_8-O-	-O-C_5H_{10}-CH/CH_2\CH_2	K39	C63 A65 N67 I
4833	C_8H_{17}-O-	-O-C_6H_{12}-CH/CH_2\CH_2	K56	C78 A84 N89 I
4834	C_9H_{19}-O-	-O-C_6H_{12}-CH/CH_2\CH_2	K56.5	C79 A85 N89.5 I

TABLE-44



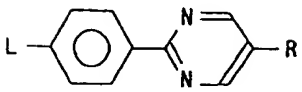
No	L	R		Cr	LC
4835	$C_{11}H_{23}$-O-	-O-C_6H_{12}-CH/CH_2\CH_2		K57.5	C76.5 A86.7 N87 I
4836	$C_{12}H_{25}$-O-	-O-C_6H_{12}-CH/CH_2\CH_2		K61	C>70 A87 I
4837	C_4H_9-O-C_4H_8-O-	-O-C_6H_{12}-CH/CH_2\CH_2		K46	C66 A67 N69 I
4838	C_8H_{13}-O-	-O-C_7H_{14}-CH/CH_2\CH_2		K51.8	C86.5 A89.6 N89.8 I
4839	C_9H_{19}-O-	-O-C_7H_{14}-CH/CH_2\CH_2		K60	C87.9 A90.4 I
4840	$C_{10}H_{21}$-O-	-O-C_7H_{14}-CH/CH_2\CH_2		K55.7	C90 A92.5 I
4841	$C_{11}H_{23}$-O-	-O-C_7H_{14}-CH/CH_2\CH_2		K53.4	C87.6 A90.5 I
4842	$C_{12}H_{25}$-O-	-O-C_7H_{14}-CH/CH_2\CH_2		K67.4	C86.1 A90.5 I
4843	C_4H_9-O-C_4H_8-O-	-O-C_7H_{14}-CH/CH_2\CH_2		K43	C73 I
4844	C_4H_9-O-	-O-C_8H_{16}-CH/CH_2\CH_2		K55.4	C81 A87.8 I
4845	C_8H_{13}-O-	-O-C_8H_{16}-CH/CH_2\CH_2		K54.1	C88.2 A90.8 I
4846	C_8H_{17}-O-	-O-C_8H_{16}-CH/CH_2\CH_2		K56.4	C91.7 A92.9 I
4847	C_9H_{19}-O-	-O-C_8H_{16}-CH/CH_2\CH_2		K56.2	C91.8 A93 I
4848	$C_{10}H_{21}$-O-	-O-C_8H_{16}-CH/CH_2\CH_2		K58.5	C91.6 A92 I
4849	$C_{11}H_{23}$-O-	-O-C_8H_{16}-CH/CH_2\CH_2		K53.6	C92.3 A93.1 I
4850	$C_{12}H_{25}$-O-	-O-C_8H_{16}-CH/CH_2\CH_2		K54.9	C92.3 A93 I
4851	C_7H_{15}-O-	-O-C_9H_{18}-CH/CH_2\CH_2		K64.7	C91 I
4852	C_8H_{17}-O-	-O-C_9H_{18}-CH/CH_2\CH_2		K63.7	C93.2 I
4853	$C_{12}H_{25}$-O-	-O-$C_{11}H_{22}$-CH/CH_2\CH_2		K64.6	C73.8 I
4854	C_8H_{17}-	-O-CH_2-CH/O\CH(t)-C_3H_7	1	K55	B90 A102 I
4855	C_8H_{17}-	-O-CH_2-CH/O\CH(t)-C_5H_{11}	1	K70	F°101 A104 I
4857	C_2H_5-CMe_2-C_4H_8-O-	-O-CH_2-CH/O\CH(t)-C_4H_9	1	K83	S87 A92 I
4858	C_2H_5-CMe_2-C_6H_{12}-O-	-O-CH_2-CH/O\CH(t)-C_4H_9	1	K90	C°96 A106 I
4859	C_2H_5-CHMe-O-CH_2-	-$C_{10}H_{21}$	1	K15.6	S15.2 I
4861	C_8H_{13}-CHMe-O-CH_2-	-$C_{10}H_{21}$	2	K16.9	A-8.5 I
4869	C_2H_5-CHMe-COO-	-$C_{11}H_{23}$	S	K52.2	S40.7 I
4871	C_2H_5-CHMe-COO-	-O-C_8H_{17}	S	K66	C°62.2 I
4872	C_2H_5-CHMe-COO-	-O-$C_{11}H_{23}$	S	K43	C°64.1 S67.2 I
4873	CH_2-CHMe-CHCl-COO-	-C_7H_{15}	S	K64	X-10 I
4875	C_2H_5-CHMe-CHCl-COO-	-C_7H_{15}	3	K59	X-20 I

TABLE 45



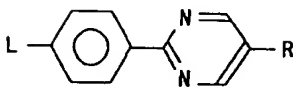
No	L	R		Cr	LC
4919	C_2H_5-CHMe-C_3H_6-O-	-C_8H_{17}	S	K31.2	B16.8 C°46.8 A50.8 I
4920	C_2H_5-CHMe-C_3H_6-O-	-C_9H_{19}	S	K23	S28 C°30 A51.5 N°52 I
4921	C_2H_5-CHMe-C_3H_6-O-	-$C_{10}H_{21}$	S	K33	S38.5 C°58 I
4922	C_2H_5-CHMe-C_3H_6-O-	-$C_{11}H_{23}$	S	K35.9	C°60 I
4923	C_2H_5-CHMe-C_3H_6-O-	-$C_{12}H_{25}$	S	K41	S23.8 C°62.2 I
4924	C_2H_5-CHMe-C_3H_6-O-	-$C_{14}H_{29}$	S	K32	B45 C°59.8 I
4925	C_3H_7-CHMe-C_3H_6-O-	-C_9H_{19}	2	K15.5	C44.5 A54.5 I
4926	C_5H_{11}-CHMe-C_3H_6-O-	-C_8H_{17}	2	K15	C9 A42.5 I
4927	C_2H_5-CHMe-C_3H_6-CHMe-CH_2-O-	-C_8H_{17}	7	K37	A34 I
4928	CH_3-CHMe-C_3H_5-CHMe-C_2H_4-O-	-C_9H_{19}	S	K27	A40 I
4931	CH_3-CHMe-C_3H_5-CHMe-CH_2-COO-	-C_9H_{19}	S	K44	C°<7 I
4932	C_2H_5-CHMe-C_4H_8-O-	-C_6H_{13}	S	K-5	A27 N°42 I
4933	C_2H_5-CHMe-C_4H_8-O-	-C_7H_{15}	S	K-6	A46.3 N°49 I
4934	C_2H_5-CHMe-C_4H_8-O-	-C_8H_{17}	S	K12	C°34.7 A49.5 I
4935	C_2H_5-CHMe-C_4H_8-O-	-C_9H_{19}	S	K10	C°46 A59 I
4936	C_2H_5-CHMe-C_4H_8-O-	-$C_{10}H_{21}$	S	K17	C°53.8 A63 I
4937	C_2H_5-CHMe-C_4H_8-O-	-$C_{11}H_{23}$	S	K20	C°59 I
4938	C_2H_5-CHMe-C_4H_8-O-	-$C_{12}H_{25}$	S	K23	S16 C°61.5 I
4939	C_3H_7-CHMe-C_4H_8-O-	-C_8H_{17}	2	K3.5	S31.5 A47.5 I
4940	C_2H_5-CHMe-C_4H_8-CO-	-C_8H_{17}	S	K67	C°69 A79.3 I
4941	C_2H_5-CHMe-C_4H_8-COO-	-C_8H_{17}	S	K38.5	S24 C°44.8 I
4942	C_2H_5-CHMe-C_4H_8-COO-	-$C_{11}H_{23}$	S	K62.3	S46.5 C°60 I
4943	C_2H_5-CHMe-C_4H_8-COO-	-$C_{14}H_{29}$	S	K46	S50 C°62.8 I
4944	C_2H_5-CHMe-C_4H_8-COO-	-O-C_8H_{17}	S	K76	C°79.5 I
4945	C_2H_5-CHMe-C_5H_{10}-O-	-C_6H_{13}	S	K12	C°23.8 N°45.6 I
4946	C_2H_5-CHMe-C_5H_{10}-O-	-C_7H_{15}	S	K10	S16 C°39 A54 N°61 I
4947	C_2H_5-CHMe-C_5H_{10}-O-	-C_8H_{17}	S	K3	B14.2 C°48.6 A56.3 I
4948	C_2H_5-CHMe-C_5H_{10}-O-	-C_9H_{19}	S	K16	C°49.1 A61 I
4949	C_2H_5-CHMe-C_5H_{10}-O-	-$C_{10}H_{21}$	S	K41	S<? C°61 I
4950	C_2H_5-CHMe-C_5H_{10}-O-	-$C_{11}H_{23}$	S	K?	B36.7 C°68 I

TABLE 46



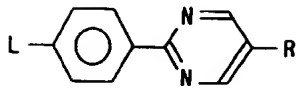
No	L	R		Cr	LC
4951	C_2H_5-CHMe-C_5H_{10}-O-	-$C_{12}H_{25}$	S	K40.5	C*70 I
4952	C_2H_5-CHMe-C_5H_{10}-O-	-$C_{14}H_{29}$	S	K43	B45 C*66 I
4953	C_2H_5-CHMe-C_5H_{10}-O-	-C_8H_{17}	2	K3	C47.5 A58 I
4954	C_2H_5-CHMe-C_5H_{10}-O-	-O-C_8H_{17}	S	K40.7	C*82.8 A89.1 I
4955	C_2H_5-CHMe-C_5H_{10}-O-	-COO-C_8H_{17}	S	K76.5	C*79.7 I
4956	CH_3-CHMe-C_6H_{12}-	-C_9H_{19}		K29.5	F31 A58.2 I
4957	CH_3-CHMe-C_6H_{12}-	-$C_{10}H_{21}$		K38.6	F41.3 C51.4 A58.4 I
4962	C_2H_5-CHF-COO-	-C_9H_{19}	1	K70	S58 I
4964	C_2H_5-CHF-COO-	-$C_{12}H_{25}$	1	K69	A59 I
4965	C_4H_9-CHF-COO-	-$C_{10}H_{21}$	S	K46	S30 A49 I
4966	C_4H_9-CHF-COO-	-$C_{12}H_{25}$	S	K59	C*45 A52 I
4968	C_5H_{11}-CHF-COO-	-$C_{12}H_{25}$	S	K14	S? A50 I
4969	C_6H_{13}-CHF-COO-	-C_8H_{17}	1	K56	A38 I
4970	C_6H_{13}-CHF-COO-	-C_9H_{19}	1	K53	A46 I
4971	C_6H_{13}-CHF-COO-	-$C_{10}H_{21}$	1	K57	S32 C*45 I
4972	C_6H_{13}-CHF-COO-	-$C_{12}H_{25}$	1	K62	C*52 I
4973	C_7H_{15}-CHF-COO-	-$C_{10}H_{21}$	S	K59	A46 I
4974	C_7H_{15}-CHF-COO-	-$C_{12}H_{25}$	S	K22	S? A61 I
4976	C_8H_{17}-CHF-COO-	-C_9H_{19}	1	K64	A46 I
4977	C_8H_{17}-CHF-COO-	-$C_{10}H_{21}$	1	K59	C*43 A46 N*48 I
4978	C_8H_{17}-CHF-COO-	-$C_{12}H_{25}$	S	K23	S87 I
4979	C_4H_9-CHF-CH_2-O-	-$C_{10}H_{21}$	S	K48	C*43 A66 I
4980	C_4H_9-CHF-CH_2-O-	-$C_{12}H_{25}$	S	K59	S37 S39 C*43 A71 I
4981	C_5H_{11}-CHF-CH_2-O-	-C_8H_{17}	S	K24	A35 I
4982	C_5H_{11}-CHF-CH_2-O-	-$C_{10}H_{21}$	S	K49	C*60 A66 I
4983	C_5H_{11}-CHF-CH_2-O-	-$C_{12}H_{25}$	S	K60	S49 C*61 A72 I
4984	C_6H_{13}-CHF-CH_2-O-	-C_8H_{17}	S	K62	A59 I
4985	C_6H_{13}-CHF-CH_2-O-	-C_9H_{19}	S	K63	A67 I
4986	C_6H_{13}-CHF-CH_2-O-	-$C_{10}H_{21}$	S	K61	S49 C*62 A71 I
4987	C_6H_{13}-CHF-CH_2-O-	-$C_{12}H_{25}$	S	K56	C*70 A74 I

TABLE 47



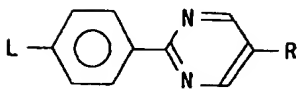
No	L	R		Cr	LC
5039	CF_3-O-	-C_3H_7		K43.1	S48.2 N-17 E
5040	CF_3-O-	-C_5H_{11}		K32	A45.2 N-6
5041	CF_3-O-	-C_7H_{15}		K25	A34 N-20 E
5042	C_3F_7-O-	-C_8H_{17}		K65.1	A115.1 I
5043	C_3F_7-CH_2-O-	-$C_{10}H_{21}$		K36	C52 A64 I
5044	C_5F_{11}-CH_2-O-	-$C_{10}H_{21}$		K47	C73 A84 I
5045	C_6F_{13}-CH_2-O-	-C_7H_{15}		K?	C? A? I
5046	C_7F_{15}-CH_2-O-	-C_6H_{13}		K50	C56 A133 I
5047	C_7F_{15}-CH_2-O-	-C_7H_{15}		K54	C67 A125 I
5048	C_7F_{15}-CH_2-O-	-C_8H_{17}		K71	C80 A117 I
5049	C_7F_{15}-CH_2-O-	-C_9H_{19}		K71	C85 A112 I
5050	C_7F_{15}-CH_2-O-	-$C_{10}H_{21}$		K75	C87 A104 I
5051	C_8F_{17}-CH_2-O-	-C_7H_{15}		K?	C? A? I
5052	C_9F_{19}-CH_2-O-	-C_7H_{15}		K?	C? A? I
5053	$C_{10}F_{21}$-CH_2-O-	-C_3H_7		K?	C? A? I
5054	$C_{10}F_{21}$-CH_2-O-	-C_5H_{11}		K?	C? A? I
5055	C_6F_{13}-C_3H_6-O-	-C_8H_{17}		K63	C95 A132 I
5056	C_4F_9-C_4H_8-O-	-C_8H_{17}		K66	A114 I
5057	C_4F_9-C_4H_8-O-	-$C_{10}H_{21}$		K58	C80 A106 I
5061	H-CF_2-O-	-C_3H_7		K41	N0 E
5062	H-CF_2-O-	-C_5H_{11}		K21	A26 N0 E
5063	H-CF_2-O-	-C_7H_{15}		K26	A32 N0 E
5064	H-CF_2-O-	-C_8H_{17}		K26.3	S31.6 N-3 E
5065	H-C_2F_4-O-	-C_7H_{15}		K46	X43 I
5066	H-CF_2-S-	-C_3H_7		K53.2	N-16 E
5067	H-CF_2-S-	-C_5H_{11}		K43.1	N-16 E
5068	C_6H_{13}-$CHCF_3$-O-CH_2-	-$C_{10}H_{21}$	1	K56.8	S18.4 I
5070	C_4H_9-$CHCF_3$-CH_2-COO-	-$C_{10}H_{21}$	1	K28	S1 S7 I
5072	H_2C=CH-COO-C_6H_{12}-O-	-C_8H_{17}		K50	S52.5 N53 I

TABLE 48



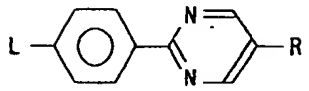
No	L	R	Cr	LC
5106	CH_3-CH=CH-CH_2-O-	$-C_9H_{19}$	K59	A65 N75 I
5107	C_2H_5-CH=CH-CH_2-O-	$-C_7H_{15}$	K31	C30 N62 I
5108	C_2H_5-CH=CH-CH_2-O-	$-C_8H_{17}$	K53	C49 A55 N61 I
5109	C_2H_5-CH=CH-CH_2-O-	$-C_9H_{19}$	K56	C42 A68 I
5111	C_3H_7-CH=CH-CH_2-O-	$-C_8H_{17}$	K43	C51 N66 I
5112	C_3H_7-CH=CH-CH_2-O-	$-C_9H_{19}$	K49	C63 A70 N72 I
5113	C_3H_7-CH=CH-CH_2-O-	$-C_{10}H_{21}$	K30	C53 A65.5 I
5114	C_4H_9-CH=CH-CH_2-O-	$-C_7H_{15}$	K22	C33 N63 I
5115	C_4H_9-CH=CH-CH_2-O-	$-C_8H_{17}$	K30	C55 N64 I
5116	C_4H_9-CH=CH-CH_2-O-	$-C_9H_{19}$	K46	C66 A70 I
5117	C_5H_{11}-CH=CH-CH_2-O-	$-C_7H_{15}$	K38	C35 N68 I
5118	C_5H_{11}-CH=CH-CH_2-O-	$-C_8H_{17}$	K24	C56 N68 I
5119	C_5H_{11}-CH=CH-CH_2-O-	$-C_9H_{19}$	K42	C70 A72 N73 I
5120	C_6H_{13}-CH=CH-CH_2-O-	$-C_7H_{15}$	K40	C41 N66 I
5121	C_6H_{13}-CH=CH-CH_2-O-	$-C_8H_{17}$	K29	C58 N66 I
5122	C_6H_{13}-CH=CH-CH_2-O-	$-C_9H_{19}$	K20	C70 A71 N72 I
5123	C_7H_{15}-CH=CH-CH_2-O-	$-C_7H_{15}$	K49	C42 N68 I
5124	C_7H_{15}-CH=CH-CH_2-O-	$-C_8H_{17}$	K31	C59 N68 I
5125	C_7H_{15}-CH=CH-CH_2-O-	$-C_9H_{19}$	K37	C72 A73 N74 I
5126	C_8H_{17}-CH=CH-CH_2-O-	$-C_7H_{15}$	K43	C47 N66 I
5127	C_8H_{17}-CH=CH-CH_2-O-	$-C_8H_{17}$	K40	C60 N66 I
5128	C_8H_{17}-CH=CH-CH_2-O-	$-C_9H_{19}$	K36	C72 A73 I
5129	C_9H_{19}-CH=CH-CH_2-O-	$-C_7H_{15}$	K55	C49 N68 I
5130	C_9H_{19}-CH=CH-CH_2-O-	$-C_8H_{17}$	K44	C62 N68 I
5131	C_9H_{19}-CH=CH-CH_2-O-	$-C_9H_{19}$	K42	C74 I
5132	H_2C=CH-C_2H_4-O-	$-C_4H_9$	K37.3	N12.5 U
5133	H_2C=CH-C_2H_4-O-	$-C_7H_{15}$	K38	A41 N49 I
5134	H_2C=CH-C_2H_4-O-	$-C_8H_{17}$	K34	A46 I
5135	H_2C=CH-C_2H_4-O-	$-C_9H_{19}$	K55	A56 I

TABLE 49



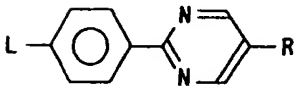
No	L	R		Cr	LC
5139	C_3H_7-CH=CH-C_2H_4-COO-	-C_8H_{17}		K54	A45 N50 I
5140	C_3H_7-CH=CH-C_2H_4-COO-	-C_9H_{19}		K67	A61 I
5142	H_2C=CH-C_3H_6-O-	-C_7H_{15}		K46	A45 N63 I
5143	H_2C=CH-C_3H_6-O-	-C_8H_{17}		K38	A54 N58 I
5144	H_2C=CH-C_3H_6-O-	-C_9H_{19}		K40	A65 I
5145	CH_3-CH=CH-C_3H_6-O-	-C_9H_{19}		K48	C35 A70 N72 I
5146	C_3H_7-CH=CH-C_3H_6-O-	-C_7H_{15}		K39	C45 N65 I
5147	C_3H_7-CH=CH-C_3H_6-O-	-C_8H_{17}		K32	C56 A59 N63 I
5148	C_3H_7-CH=CH-C_3H_6-O-	-C_9H_{19}		K42	C64 A73 I
5151	H_2C=CH-C_4H_8-O-	-C_7H_{15}		K27	A43 N57 I
5152	H_2C=CH-C_4H_8-O-	-C_8H_{17}		K44	A51 N55 I
5153	H_2C=CH-C_4H_8-O-	-C_9H_{19}		K48	A62 I
5154	H_2C=CH-C_4H_8-O-	-$C_{10}H_{21}$		K55.5	C33 A62 I
5155	CH_3-CH=CH-C_4H_8-COO-	-C_7H_{15}		K51	A34 N55 I
5156	CH_3-CH=CH-C_4H_8-COO-	-C_8H_{17}		K48	C39 A46 N52 I
5157	CH_3-CH=CH-C_4H_8-COO-	-C_9H_{19}		K56	C48 A60 I
5160	H_2C=CH-C_5H_{10}-O-	-C_7H_{15}		K56	C34 A47 N67 I
5161	H_2C=CH-C_5H_{10}-O-	-C_8H_{17}		K37	C30 A58 N64 I
5162	H_2C=CH-C_5H_{10}-O-	-C_9H_{19}		K31	A69 I
5163	CH_3-CH=CH-C_5H_{10}-O-	-C_7H_{15}		K39	C45 A65 I
5164	CH_3-CH=CH-C_5H_{10}-O-	-C_8H_{17}		K40	C52 A57 N67 I
5165	CH_3-CH=CH-C_5H_{10}-O-	-C_9H_{19}		K39	C53 A71 N72 I
5166	H_2C=CH-C_5H_{10}-COO-	-C_7H_{15}		K43	A36 N46 I
5167	H_2C=CH-C_5H_{10}-COO-	-C_8H_{17}		K37	C34 A43 N44 I
5168	H_2C=CH-C_5H_{10}-COO-	-C_9H_{19}		K48	C42 A56 I
5169	H_2C=CH-C_5H_{10}-O-	-C_4H_8-CHMe-C_2H_5	S	K35	C*29 N*46 I
5170	H_2C=CH-C_5H_{10}-O-	-C_5H_{10}-CHMe-C_2H_5	S	K7	C*19 N*39 I

TABLE 50



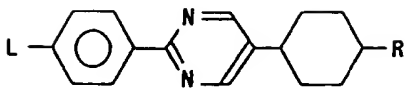
No	L	R		Cr	LC
5171	$H_2C=CH-C_6H_{12}-O-$	$-C_7H_{15}$		K36	C33 A48 N62 I
5172	$H_2C=CH-C_6H_{12}-O-$	$-C_8H_{17}$		K19.2	C33.3 A56.1 N60.2 I
5173	$H_2C=CH-C_6H_{12}-O-$	$-C_9H_{19}$		K37	A67 I
5174	$H_2C=CH-C_6H_{12}-O-$	$-C_{10}H_{21}$		K38.2	C49.6 A67.9 I
5175	$H_2C=CH-C_6H_{12}-O-$	$-O-C_8H_{17}$		K48.5	C76.3 A92 N92.6 I
5176	$H_2C=CH-C_6H_{12}-O-$	$-C_4H_8-CHMe-C_2H_5$	S	K29	C°28 N°40 I
5177	$H_2C=CH-C_6H_{12}-O-$	$-C_5H_{10}-CHMe-C_2H_5$	S	K4	C°15 N°32 I
5178	$H_2C=CH-C_7H_{14}-O-$	$-C_7H_{15}$		K52	C43 A54 N67 I
5179	$H_2C=CH-C_7H_{14}-O-$	$-C_8H_{17}$		K27	C45 A62 N66 I
5180	$H_2C=CH-C_7H_{14}-O-$	$-C_9H_{19}$		K19	C39 A71 I
5181	$H_2C=CH-C_7H_{14}-O-$	$-C_{10}H_{21}$		K32.5	C55 A72 I
5182	$H_2C=CH-C_7H_{14}-O-$	$-C_4H_8-CHMe-C_2H_5$	S	K16	C°35 N°48 I
5183	$H_2C=CH-C_7H_{14}-O-$	$-C_5H_{10}-CHMe-C_2H_5$	S	K-1	C°28 N°42 I
5184	$H_2C=CH-C_8H_{16}-O-$	$-C_7H_{15}$		K43	C42 A55 N64 I
5185	$H_2C=CH-C_8H_{16}-O-$	$-C_8H_{17}$		K24	C46 A60 N63 I
5186	$H_2C=CH-C_8H_{16}-O-$	$-C_9H_{19}$		K35	C45 A70 I
5187	$H_2C=CH-C_8H_{16}-O-$	$-C_{10}H_{21}$		K33	C57 A70 I
5188	$H_2C=CH-C_8H_{16}-O-$	$-C_4H_8-CHMe-C_2H_5$	S	K17	C°34 N°44 I
5189	$H_2C=CH-C_8H_{16}-O-$	$-C_5H_{10}-CHMe-C_2H_5$	S	K12	C°27 N°38 I
5191	$H_2C=CH-C_9H_{18}-O-$	$-C_7H_{15}$		K49	C46 A59 N67 I
5192	$H_2C=CH-C_9H_{18}-O-$	$-C_8H_{17}$		K33.9	C53 A64.4 N66.2 I
5193	$H_2C=CH-C_9H_{18}-O-$	$-C_9H_{19}$		K31.3	C52.8 A71.7 I
5194	$H_2C=CH-C_9H_{18}-O-$	$-C_{10}H_{21}$		K39.9	C65.2 A72.5 I
5195	$H_2C=CH-C_9H_{18}-O-$	$-C_{12}H_{25}$		K45.9	C75.5 A76.5 I
5196	$H_2C=CH-C_{10}H_{20}-O-$	$-C_7H_{15}$		K50	C45 A60 N65 I
5197	$H_2C=CH-C_{10}H_{20}-O-$	$-C_8H_{17}$		K36	C50 A63 N64 I
5198	$H_2C=CH-C_{10}H_{20}-O-$	$-C_9H_{19}$		K46	C50 A70 I
5199	$H_2C=CH-C_9H_{18}-O-$	$-O-C_8H_{17}$		K44.1	C78.5 A94.5 I
5200	$H_2C=CH-C_9H_{18}-O-$	$-C_4H_8-CHMe-C_2H_5$	S	K20	C°40 N°49 I
5201	$H_2C=CH-C_{10}H_{20}-O-$	$-C_4H_8-CHMe-C_2H_5$	S	K35	C°40 N°47 I

TABLE 51



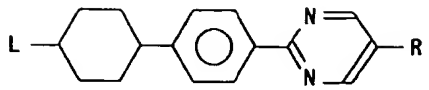
No	L	R		Cr	LC
5202	$H_2C=CH-C_9H_{18}-O-$	$-C_5H_{10}-CHMe-C_2H_5$	S	K17	C°36 N°45 I
5203	$H_2C=CH-C_{10}H_{20}-O-$	$-C_5H_{10}-CHMe-C_2H_5$	S	K33	C°37 N°43 I
5204	$C_3H_7-CH=CH-CH_2-O-$	$-C_9H_{19}$		K32	A17 I
5208	$CH_3-CH=CH-C_2H_4-O-$	$-C_7H_{15}$		K45	A41 N47 I
5209	$CH_3-CH=CH-C_2H_4-O-$	$-C_8H_{17}$		K34	A45 I
5210	$CH_3-CH=CH-C_2H_4-O-$	$-C_9H_{19}$		K48	C25 A55 I
5211	$C_2H_5-CH=CH-C_2H_4-O-$	$-C_7H_{15}$		K43	A45 N48 I
5212	$C_2H_5-CH=CH-C_2H_4-O-$	$-C_8H_{17}$		K42	C32 A47 I
5213	$C_2H_5-CH=CH-C_2H_4-O-$	$-C_9H_{19}$		K58	C41 A56 I
5214	$C_3H_7-CH=CH-C_2H_4-O-$	$-C_7H_{15}$		K20	A44 I
5215	$C_3H_7-CH=CH-C_2H_4-O-$	$-C_8H_{17}$		K33	C35 A46 I
5216	$C_3H_7-CH=CH-C_2H_4-O-$	$-C_9H_{19}$		K34	C45 A54 I
5217	$C_4H_9-CH=CH-C_2H_4-O-$	$-C_7H_{15}$		K28	A43 N44 I
5218	$C_4H_9-CH=CH-C_2H_4-O-$	$-C_8H_{17}$		K25	C34 A46 I
5219	$C_4H_9-CH=CH-C_2H_4-O-$	$-C_9H_{19}$		K24	C43 A54 I
5220	$C_5H_{11}-CH=CH-C_2H_4-O-$	$-C_7H_{15}$		K25	A40 I
5221	$C_5H_{11}-CH=CH-C_2H_4-O-$	$-C_8H_{17}$		K12	C30 A42 I
5222	$C_5H_{11}-CH=CH-C_2H_4-O-$	$-C_9H_{19}$		K6	C38 A51 I
5223	$C_6H_{13}-CH=CH-C_2H_4-O-$	$-C_7H_{15}$		K33	A39 I
5224	$C_6H_{13}-CH=CH-C_2H_4-O-$	$-C_8H_{17}$		K22	C25 A41 I
5225	$C_6H_{13}-CH=CH-C_2H_4-O-$	$-C_9H_{19}$		K19	C34 A49 I
5226	$C_7H_{15}-CH=CH-C_2H_4-O-$	$-C_7H_{15}$		K40	A37 I
5227	$C_7H_{15}-CH=CH-C_2H_4-O-$	$-C_8H_{17}$		K30	C20 A39 I
5228	$C_7H_{15}-CH=CH-C_2H_4-O-$	$-C_9H_{19}$		K26	C24 A47 I
5229	$C_8H_{17}-CH=CH-C_2H_4-O-$	$-C_7H_{15}$		K31	A35 I
5230	$C_8H_{17}-CH=CH-C_2H_4-O-$	$-C_8H_{17}$		K32	C14 A41 I
5231	$C_8H_{17}-CH=CH-C_2H_4-O-$	$-C_9H_{19}$		K29	C14 A50 I
5232	$CH_3-CH=CH-C_3H_6-O-$	$-C_9H_{19}$		K22	A46 I
5233	$C_2H_5-CH=CH-C_3H_6-COO-$	$-C_7H_{15}$		K26	A31 I

TABLE 52



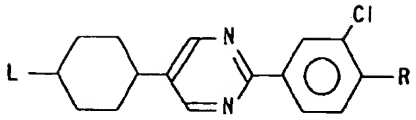
No	L	R		Cr	LC
27740	Cl-CF_2-O-	-C_4H_9		K30	S130.6 N135.2 I
27749	NC-	-C_7H_{15}		K82	A158 N223 I
27750	NC-	-O-C_2H_5		K144.5	N232 B
27751	NC-	-O-C_3H_7		K114.5	N223.5 B
27752	NC-	-O-C_5H_{11}		K93	N205 B
27753	NC-	-CH_2-CHMe-C_2H_5	1	K76	S125 N*178 I
27754	NC-	-C_2H_4-CHMe-C_2H_5	1	K101	S159 N*189.5 I
27755	C_2H_5-	-C_7H_{15}		K68	S179 N182 I
27756	C_3H_7-	-C_2H_5		K125.5	S128.5 N167 I
27757	C_3H_7-	-C_3H_7		K116.5	S175 N194.5 I
27758	C_3H_7-	-C_5H_{11}		K51	S190 I
27759	C_4H_9-	-C_2H_5		K108.5	S140 N163.5 I
27760	C_4H_9-	-C_5H_{11}		K37.5	S187 I
27761	C_5H_{11}-	-C_2H_5		K101	S139 N167 I
27762	C_5H_{11}-	-C_3H_7		K93.5	S179 N190 I
27763	C_5H_{11}-	-C_5H_{11}		K39.5	S189.2 I
27764	C_5H_{11}-	-C_7H_{15}		K122.5	S186.5 I
27765	C_7H_{15}-	-C_2H_5		K80	S136.5 N157 I
27768	C_6H_{13}-CHMe-O-CH_2-	-C_7H_{15}	1	K36.5	A98.4 I
27769	C_2H_5-CHMe-CH_2-O-	-O-C_8H_{17}	S	K64.6	B104.9 A160.5 I
27770	C_2H_5-CHMe-CH_2-O-	-O-C_9H_{19}	S	K61.7	B108.2 A156 I
27771	C_2H_5-CHMe-C_3H_6-O-	-O-C_8H_{17}	S	K68	B101 A160.9 I
27772	C_2H_5-CHMe-C_3H_6-O-	-O-C_9H_{19}	S	K63.5	B103 A157.4 I

TABLE 53

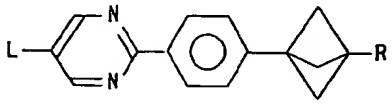


No	L	R		Cr	LC
28508	C_5H_{11}-	-OOC-$C_{10}H_{21}$		K118	C133 N172 I
28509	C_5H_{11}-	-OOC-$C_{11}H_{23}$		K120	C138 N169 I
28510	C_4H_9-CHF-COO-	-C_6H_{13}	S	K34	B98 A137 I
28511	C_4H_9-CHF-COO-	-C_7H_{15}	S	K53	B101 A143 I
28512	C_4H_9-CHF-COO-	-C_8H_{17}	S	K41	B109 A143 I
28513	C_4H_9-CHF-COO-	-C_9H_{19}	S	K49	B113 A145 I
28514	C_4H_9-CHF-COO-	-$C_{10}H_{21}$	S	K48	B116 A145 I
28515	C_4H_9-CHF-COO-	-O-C_6H_{13}	R	K58	C°81 A161 N°165 I
28516	C_4H_9-CHF-COO-	-O-C_7H_{15}	R	K44	B78 C°95 A162 N°163 I
28517	C_4H_9-CHF-COO-	-O-C_8H_{17}	R	K53	B88 C°102 A162 I
28518	C_4H_9-CHF-COO-	-O-C_9H_{19}	R	K60	B92 C°106 A163 I
28519	C_4H_9-CHF-COO-	-O-$C_{10}H_{21}$	R	K35	S70 B98 C°108 A165 I
28522	C_5H_{11}-	-O-CH_2-CH=CH-C_5H_{11}		K97	C115 N176 I
28523	C_5H_{11}-	-O-CH_2-CH=CH-C_6H_{13}		K94	C125 N170 I
28524	C_5H_{11}-	-O-CH_2-CH=CH-C_7H_{15}		K86	C135 N167 I
28525	C_5H_{11}-	-O-CH_2-CH=CH-C_8H_{17}		K93	C140 N163 I
28526	C_5H_{11}-	-O-C_3H_6-CH=CH-C_3H_7		K87	C93 N184 I
28528	C_5H_{11}-	-O-C_5H_{10}-CH=CH_2		K55	C65 A112 N185 I
28529	C_5H_{11}-	-O-C_5H_{10}-CH=CH-CH_3		K81	C111 A130 N185 I
28530	C_5H_{11}-	-O-C_6H_{12}-CH=CH_2		K67	C96 A121 N176 I
28531	C_5H_{11}-	-O-C_7H_{14}-CH=CH_2		K59	C91 A142 N176 I
28532	C_5H_{11}-	-O-C_8H_{16}-CH=CH_2		K55	C103 A145 N169 I
28533	C_5H_{11}-	-O-C_9H_{18}-CH=CH_2		K57	C97 A151 N168 I
28535	C_5H_{11}-	-O-C_4H_8-CH%CH-C_2H_5		K86	C85 N168 I
28536	C_5H_{11}-	-O-C_4H_8-CH/CH_2\CH_2		K81	S75 N180 I
28537	C_3H_7-	-O-C_6H_{12}-CH/CH_2\CH_2		K80	S70 C84 N174 I

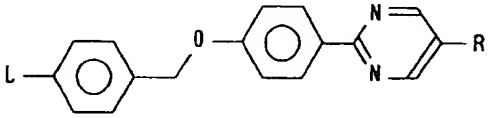
TABLE 54



No	L	R	Cr	LC
28896	C_5H_{11}-	-C_5H_{11}	K33.4	S121.2 I

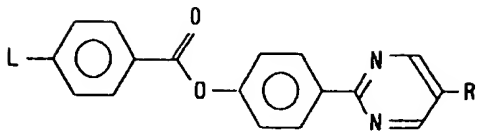


No	L	R	Cr	LC
28548	C_8H_{17}-O-	-C_8H_{17}	K51	C63 A113 N121 I



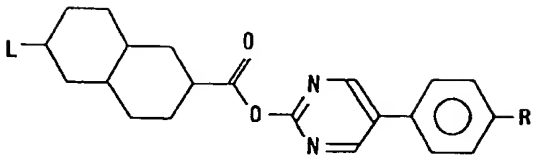
No	L	R	Cr	LC
33521	C_5H_{11}-	-C_6H_{13}	K72	S65 N104 I
33522	C_5H_{11}-	-C_7H_{15}	K76	S86 N109 I
33523	C_5H_{11}-	-C_9H_{19}	K52	S107 N113 I
33524	C_6H_{13}-	-C_6H_{13}	K61	S76 N100.8 I
33525	C_6H_{13}-	-C_7H_{15}	K48	S92 N107 I
33526	C_6H_{13}-	-C_9H_{19}	K66	S109 N110 I
33527	C_8H_{17}-	-C_8H_{17}	K73	F66 C103.5 I

TABLE 55

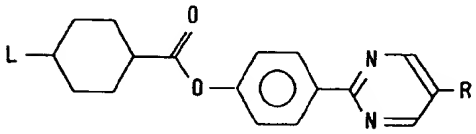


No	L	R		Cr	LC
33600	C_4H_9-O-CHMe-COO-	-C_8H_{17}	S	K44	C°60 N°96 I
33601	C_4H_9-O-CHMe-COO-	-O-C_8H_{17}	S	K68	C°103 N°138 I
33603	C_6H_{13}-O-	-C_4H_8-CHMe-C_2H_5	S	K56	C°54 N°152 I
33604	C_7H_{15}-O-	-C_4H_8-CHMe-C_2H_5	S	K64	C°65 N°148 I
33605	C_8H_{17}-O-	-C_4H_8-CHMe-C_2H_5	S	K71	C°70 N°142 I
33606	C_9H_{19}-O-	-C_4H_8-CHMe-C_2H_5	S	K78	C°77 N°142 I
33607	$C_{10}H_{21}$-O-	-C_4H_8-CHMe-C_2H_5	S	K74	C°82 N°141 I
33608	$C_{11}H_{23}$-O-	-C_4H_8-CHMe-C_2H_5	S	K78	C°85 N°136 I
33609	$C_{12}H_{25}$-O-	-C_4H_8-CHMe-C_2H_5	S	K83	C°88 N°133 I
33610	C_6H_{13}-O-	-C_5H_{10}-CHMe-C_2H_5	S	K72	C°50 N°148 I
33611	C_7H_{15}-O-	-C_5H_{10}-CHMe-C_2H_5	S	K56	C°64 N°144 I
33612	C_8H_{17}-O-	-C_5H_{10}-CHMe-C_2H_5	S	K56	C°72 N°142 I
33613	C_9H_{19}-O-	-C_5H_{10}-CHMe-C_2H_5	S	K68	C°80 N°138 I
33614	$C_{10}H_{21}$-O-	-C_5H_{10}-CHMe-C_2H_5	S	K86	C°84 N°137 I
33615	$C_{11}H_{23}$-O-	-C_5H_{10}-CHMe-C_2H_5	S	K83	C°90 N°132 I
33616	$C_{12}H_{25}$-O-	-C_5H_{10}-CHMe-C_2H_5	S	K69	C°94 N°132 I
33618	C_6H_{13}-CHMe-O-	-O-C_8H_{17}	1	K72	C°48 N°115 I
33620	CH_3-CHMe-CHCl-COO-	-C_7H_{15}	S	K70	C°96 N°202 I
33621	CH_3-CHMe-CHCl-COO-	-C_9H_{19}	S	K62	C°69 N°157 I
33622	C_2H_5-CHMe-CHCl-COO-	-C_8H_{17}	3	K?	C°77 N°124 I

TABLE 56

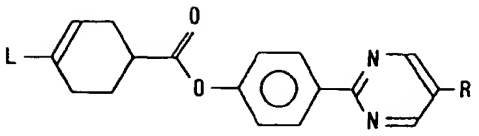


No	L	R		Cr	LC
36376	C_4H_9-	-O-C_5H_{11}	2	K66	S190 I

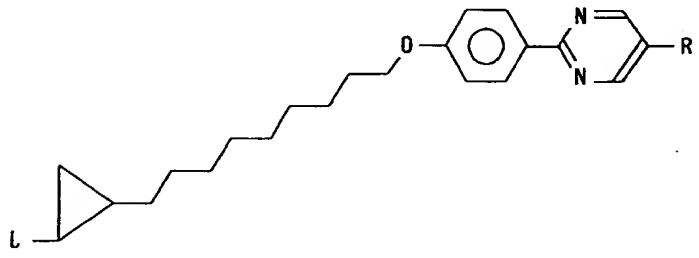


No	L	R		Cr	LC
37030	C_2H_5-	-CN		K137	S136 N243 I
37031	C_5H_{11}-	-CN		K117	S192 N248 I
37033	CH_3-	-$C_{10}H_{21}$		K76	C77 N124 I
37035	C_2H_5-	-$C_{10}H_{21}$		K82	C82 N142 I
37038	C_3H_7-	-$C_{10}H_{21}$		K76	C89 N161 I
37039	C_3H_7-	-$C_{12}H_{25}$		K64.9	S76.3 C108.1 N152.8 I
37041	C_4H_9-	-$C_{10}H_{21}$		K40	B82 C99 N160 I
37042	C_4H_9-	-$C_{12}H_{25}$		K80	S82 S83.8 C115.3 N152.7 I
37046	C_5H_{11}-	-$C_{10}H_{21}$		K64	B85 C104 N161 I
37047	C_5H_{11}-	-$C_{11}H_{23}$		K70	S80 S82.7 C114.5 N160.5 I
37048	C_5H_{11}-	-$C_{12}H_{25}$		K67	S83 S87.2 C121.5 N156 I
37051	C_7H_{15}-	-$C_{10}H_{21}$		K78	B89 C116 N158 I
37052	C_9H_{19}-	-$C_{10}H_{21}$		K77	S85 C123 N153 I
37053	$C_{10}H_{21}$-	-$C_{10}H_{21}$		K77	S87 C125 N150 I
37054	C_5H_{11}-	-O-C_8H_{17}		K72.1	S68 S74 C100 N193 I
37055	C_5H_{11}-	-O-C_9H_{19}		K74.3	G69 C117.7 N189 I
37056	C_5H_{11}-	-O-$C_{10}H_{21}$		K74.7	G72.5 C129.8 N186.5 I
37058	H_2C=CH-C_2H_4-	-$C_{10}H_{21}$		K71	C92 N162 I
37059	CH_3-CH=CH-C_2H_4-	-$C_{10}H_{21}$		K52	S56 S64 S69 C92 N170 I

TABLE 57

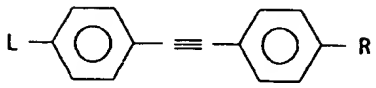


No	L	R		Cr	LC
37078	$(Me)_2C=CH-C_2H_4-$	$-C_{10}H_{21}$	2	K40	C83 N106 I
37079	$(Me)_2C=CH-C_2H_4-$	$-O-C_{10}H_{21}$	2	K82	C112 N138 I
37080	CH_3-	$-C_{10}H_{21}$	2	K50	S54 C68 N107 I

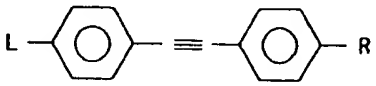


No	L	R		Cr	LC
37109	H-	$-C_6H_{13}$		K44	N53 W
37110	H-	$-C_8H_{17}$		K41.3	C51 A57.6 N60.2 W
37111	H-	$-C_9H_{19}$		K52.8	C56.8 A67.2 W
37112	H-	$-C_{10}H_{21}$		K44	C64.9 A67.7 W
37113	H-	$-C_{11}H_{23}$		K48	C70.2 A71.6 W
37114	H-	$-C_{12}H_{25}$		K52	C72.3 W
37115	H-	$-O-C_7H_{15}$		K56.4	C71.3 A83.4 N85.1 W
37116	H-	$-O-C_8H_{17}$		K69.2	C75.8 A90.2 W
37117	H-	$-O-C_{11}H_{23}$		K68	C95 W
37118	C_2H_5-OOC-	$-C_8H_{17}$	1	K38	C*36 I

TABLE 58

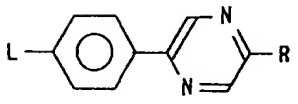


No	L	R		Cr	LC
9165	C_2H_5-CHMe-CH_2-OOC-	-O-$C_{11}H_{22}$-O-H	S	K80	C°58.9 A72.8 I
9179	C_5H_{11}-	-Cl		K69	N37 E
9182	$C_{10}H_{21}$-O-	-Cl		K85.5	C86.5 I
9200	CH_3-	-CN		K160	N65 E
9201	C_2H_5-	-CN		K110	N62 E
9209	$C_{10}H_{21}$-	-CN		K64.4	A47.9 N62.1 B
9210	$C_{11}H_{23}$-	-CN		K64	A61.4 N66.7 I
9211	$C_{12}H_{25}$-	-CN		K72	A64.7 N66 I
9221	$C_{14}H_{29}$-O-	-CN		K96	A91 I
9226	C_7H_{15}-	-O-C_3H_6-CN		K85.5	A70 N77 I

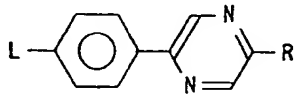


No	L	R		Cr	LC
9227	C_7H_{15}-O-	-O-C_3H_6-CN		K105.5	N102.5 U
9228	C_5H_{11}-	-O-C_5H_{10}-CN		K63.4	A53 N70 I
9230	C_2H_5-CHMe-C_2H_4-	-CN	S	K81	N°23.5 B
9237	H_2C=CH-CH_2-O-	-CN		K115.2	N104.1 I
9243	CH_3-NMe-	-NO_2		K217	X220 Z
9256	C_4H_9-	-C_7H_{15}		K6.2	S-2.5 N17.5 I
9257	C_4H_9-	-C_8H_{17}		K14.2	S10.3 N16.5 I
9258	C_4H_9-	-C_9H_{19}		K30	S20.5 N27 I
9259	C_5H_{11}-	-C_6H_{13}		K31.2	S21 I
9260	C_5H_{11}-	-C_7H_{15}		K27.3	S17.5 N39.1 I
9261	C_5H_{11}-	-C_8H_{17}		K8.6	S30.5 N33.7 I
9262	C_5H_{11}-	-C_9H_{19}		K28	S37 N44.9 I
9263	C_6H_{13}-	-C_7H_{15}		K19.3	S20 N30 I
9264	C_6H_{13}-	-C_8H_{17}		K22.2	S27.8 I
9265	C_6H_{13}-	-C_9H_{19}		K23.7	S31.7 I
9266	C_7H_{15}-	-C_7H_{15}		K41.6	S35.2 N40.8 I
9267	C_7H_{15}-	-C_9H_{19}		K20	S43.8 I
9271	CH_3-	-O-CH_3		K124.8	N32.1 E

TABLE 59

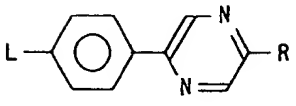


No	L	R		Cr	LC
5352	$C_{12}H_{25}$-	-CN		K87	A81 I
5353	$C_{13}H_{27}$-	-CN		K87	S80 B
5355	C_8H_{17}-O-	-CN		K84	A112 I
5356	$C_{10}H_{21}$-O-	-CN		K70	A111 I
5357	$C_{12}H_{25}$-O-	-CN		K85	A111 I
5358	$C_{12}H_{25}$-	-O-C_4H_9		K48	S43 I
5360	CH_3-O-	-C_8H_{17}		K68	A63 I
5361	CH_3-O-	-$C_{12}H_{25}$		K90	A83 I
5362	C_8H_{17}-O-	-C_8H_{17}		K65	C64 A79 I
5367	$C_{12}H_{25}$-O-	-O-CH_2-CHMe-C_2H_5	S	K63	A45 I
5369	C_8H_{17}-O-	-COO-CH_2-CHMe-C_2H_5	S	K41	S52 A60 I
5370	$C_{12}H_{25}$-O-	-COO-CH_2-CHMe-C_2H_5	S	K42	A60 I
5371	C_8H_{17}-O-	-O-C_3H_6-CHMe-C_2H_5	S	K42	C*61 A66 I
5372	$C_{12}H_{25}$-O-	-O-C_3H_6-CHMe-C_2H_5	S	K50	C*63 A72 I
5374	C_2H_5-CHMe-CH_2-O-	-O-$C_{12}H_{25}$	S	K56	A46 I
5376	C_2H_5-CHMe-CH_2-OOC-	-O-$C_{12}H_{25}$	S	K58	C*45 A49 I
5377	C_2H_5-CHMe-C_3H_6-OOC-	-O-$C_{12}H_{25}$	1	K?	A<? I
5378	C_3H_7-CHMe-C_4H_8-O-	-C_8H_{17}	2	K48	C56.5 I
5379	C_2H_5-CHMe-C_5H_{10}-O-	-C_8H_{17}	2	K49	C62 I



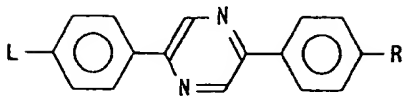
No	L	R		Cr	LC
5381	C_5H_{11}-CH=CH-CH_2-O-	-C_8H_{17}		K48	C77 I

TABLE 60



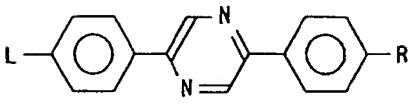
No	L	R		Cr	LC
5352	$C_{12}H_{25}$-	-CN		K87	A81 I
5353	$C_{13}H_{27}$-	-CN		K87	S80 B
5355	C_8H_{17}-O-	-CN		K84	A112 I
5356	$C_{10}H_{21}$-O-	-CN		K70	A111 I
5357	$C_{12}H_{25}$-O-	-CN		K85	A111 I
5358	$C_{12}H_{25}$-	-O-C_4H_9		K48	S43 I
5360	CH_3-O-	-C_8H_{17}		K68	A63 I
5361	CH_3-O-	-$C_{12}H_{25}$		K90	A83 I
5362	C_8H_{17}-O-	-C_8H_{17}		K65	C64 A79 I
5367	$C_{12}H_{25}$-O-	-O-CH_2-CHMe-C_2H_5	S	K63	A45 I
5369	C_8H_{17}-O-	-COO-CH_2-CHMe-C_2H_5	S	K41	S52 A60 I
5370	$C_{12}H_{25}$-O-	-COO-CH_2-CHMe-C_2H_5	S	K42	A60 I
5371	C_8H_{17}-O-	-O-C_3H_6-CHMe-C_2H_5	S	K42	C*61 A66 I
5372	$C_{12}H_{25}$-O-	-O-C_3H_6-CHMe-C_2H_5	S	K50	C*63 A72 I
5374	C_2H_5-CHMe-CH_2-O-	-O-$C_{12}H_{25}$	S	K56	A46 I
5376	C_2H_5-CHMe-CH_2-OOC-	-O-$C_{12}H_{25}$	S	K58	C*45 A49 I
5377	C_2H_5-CHMe-C_3H_6-OOC-	-O-$C_{12}H_{25}$	1	K?	A<? I
5378	C_3H_7-CHMe-C_4H_8-O-	-C_8H_{17}	2	K48	C56.5 I
5379	C_2H_5-CHMe-C_5H_{10}-O-	-C_8H_{17}	2	K49	C62 I

TABLE 61



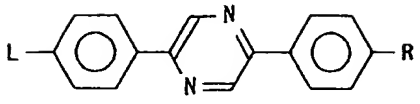
No	L	R	Cr	LC
25427	CH_3-	-CN	K196	A221 N296 I
25428	C_2H_5-	-CN	K190	A197 N278 I
25429	C_3H_7-	-CN	K169	A179 N277 I
25430	C_4H_9-	-CN	K129	A139 N256 I
25431	C_5H_{11}-	-CN	K131	A140 N263 I
25432	C_6H_{13}-	-CN	K107	A125 N225 U
25433	C_7H_{15}-	-CN	K110	A132 N242 I
25434	C_8H_{17}-	-CN	K125	A133 N240 I
25435	C_9H_{19}-	-CN	K105	A107 N232 I
25436	$C_{12}H_{25}$-	-CN	K109	C119 A227 I
25437	$C_{16}H_{33}$-	-CN	K106	C119 A221 I
25438	CH_3-O-	-CN	K182	S169 N321 I
25439	C_7H_{15}-O-	-CN	K97	X267 I
25440	C_8H_{17}-O-	-CN	K96	X270 I
25441	C_9H_{19}-O-	-CN	K102	X263 I
25442	$C_{10}H_{21}$-O-	-CN	K104	X252 I
25443	$C_{11}H_{23}$-O-	-CN	K109	X263 I
25444	$C_{12}H_{25}$-O-	-CN	K105	X252 I
25445	$C_{13}H_{27}$-O-	-CN	K103	X246 I
25450	C_4H_9-	-C_4H_9	K161.3	C166.4 N181.9 I
25451	C_5H_{11}-	-C_5H_{11}	K134.3	C173.6 A182.2 N191.3 I
25452	C_6H_{13}-	-C_6H_{13}	K116.1	C172.3 A179.2 I

TABLE 62

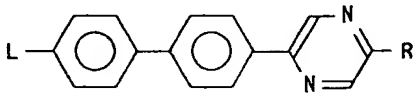


No	L	R		Cr	LC
25453	C_7H_{15}-	-C_7H_{15}		K109.6	C175 A187 I
25454	C_8H_{17}-	-C_8H_{17}		K104.6	C178 A187 I
25455	C_9H_{19}-	-C_9H_{19}		K108.8	C177 I
25456	$C_{10}H_{21}$-	-$C_{10}H_{21}$		K112	S106 C170.5 I
25458	C_2H_5-	-O-CH_3		K162	A163 N229 I
25460	C_4H_9-	-O-CH_3		K138	A139 N230 I
25462	C_6H_{13}-	-O-CH_3		K137	A138 N206 U
25464	C_8H_{17}-	-O-CH_3		K135	A136 N225 U
25466	$C_{12}H_{25}$-	-O-CH_3		K131	A169 N180 I
25467	$C_{16}H_{33}$-	-O-CH_3		K127	A175 I
25469	C_5H_{11}-	-OOC-C_3H_7		K158	S200 N219 I
25473	C_4H_9-O-	-O-C_4H_9		K170.3	C218 N246 I
25474	C_5H_{11}-O-	-O-C_5H_{11}		K153.4	C211 N224 I
25475	C_6H_{13}-O-	-O-C_6H_{13}		K135.7	B139.6 C212 N220 I
25476	C_7H_{15}-O-	-O-C_7H_{15}		K126	B128.5 C211 N212 I
25477	C_8H_{17}-O-	-O-C_8H_{17}		K118.8	B121.1 C209 I
25478	C_9H_{19}-O-	-O-C_9H_{19}		K118.7	C204 I
25479	$C_{10}H_{21}$-O-	-O-$C_{10}H_{21}$		K113	C201 I
25481	C_8H_{17}-O-	-COO-CHMe-C_2H_5	1	K11	C*161 A184 I
25482	$C_{10}H_{21}$-O-	-COO-CHMe-C_6H_{13}	1	K138	C*139 A162 I

TABLE 63

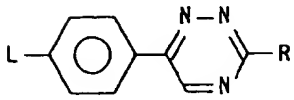


No	L	R		Cr	LC
25483	$C_{12}H_{25}$-	-O-CH_2-CHMe-C_2H_5	S	K67	S100 C*155 A157 I
25484	$C_{10}H_{21}$-	-COO-CH_2-CHMe-C_2H_5	S	K85	C*120 A166 I
25485	$C_{12}H_{25}$-	-COO-CH_2-CHMe-C_2H_5	S	K95	C*130 A162 I
25486	$C_{16}H_{33}$-	-COO-CH_2-CHMe-C_2H_5	S	K95	C*100 A165 I
25487	C_7H_{15}-O-	-COO-CH_2-CHMe-C_2H_5	S	K126	C*175 A200 I
25488	C_8H_{17}-O-	-COO-CH_2-CHMe-C_2H_5	S	K109	C*131 A182 I
25489	C_9H_{19}-O-	-COO-CH_2-CHMe-C_2H_5	S	K113	C*171 A199 I
25490	$C_{10}H_{21}$-O-	-COO-CH_2-CHMe-C_2H_5	S	K98	C*168 A187 I
25491	$C_{11}H_{23}$-O-	-COO-CH_2-CHMe-C_2H_5	S	K90	C*160 A193 I
25492	$C_{12}H_{25}$-O-	-COO-CH_2-CHMe-C_2H_5	S	K110	C*166 A186 I
25493	$C_{13}H_{27}$-O-	-COO-CH_2-CHMe-C_2H_5	S	K100	C*160 A185 I
25494	$C_{10}H_{21}$-O-	-COO-C_3H_6-CHMe-C_2H_5	S	K68	C*168 A199 I



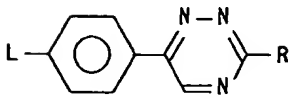
No	L	R	Cr	LC
26944	F-	-O-C_4H_9	K118.7	A202.3 I
26945	F-	-O-C_5H_{11}	K120	A204 I
26946	F-	-O-C_6H_{13}	K110.5	A195.5 I
26947	F-	-O-C_7H_{15}	K117.1	A191.1 I
26948	F-	-O-C_8H_{17}	K115.6	A188 I
26949	F-	-O-C_9H_{19}	K116.2	A179.4 I
26950	F-	-O-$C_{10}H_{21}$	K117.1	A178.6 I
26951	F-	-O-$C_{12}H_{25}$	K121.3	A170.5 I
26952	C_3H_7-	-O-C_4H_9	K91.7	E149.2 B161 A198.7 N201.3 I
26953	C_3H_7-	-O-C_5H_{11}	K92.4	E143 B156 A191.2 N192.5 I
26954	C_3H_7-	-O-C_6H_{13}	K92.6	E135.9 B149.8 A191.4 N192.1 I
26955	C_3H_7-	-O-C_7H_{15}	K77.3	E132.7 B147.8 A187.9 I
26956	C_3H_7-	-O-C_8H_{17}	K86.8	E130.5 B149.9 A198.5 U
26957	C_3H_7-	-O-C_9H_{19}	K91.8	E120.7 B138.3 N180.5 I
26958	C_3H_7-	-O-$C_{10}H_{21}$	K93.2	E118 B135 N181 I
26959	C_3H_7-	-O-$C_{12}H_{25}$	K105.4	E108 B128.4 N171.7 I

TABLE 64



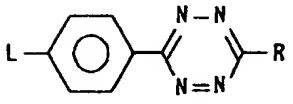
No	L	R	Cr	LC
5543	C_4H_9-	-C_6H_{13}	K57.5	A56.5 I
5544	C_6H_{13}-	-C_4H_9	K45	A61.5 I
5545	C_6H_{13}-	-C_5H_{11}	K31	A68 I
5546	C_6H_{13}-	-C_6H_{13}	K44	A68 I
5547	C_6H_{13}-	-C_7H_{15}	K43	A69.5 I
5548	C_7H_{15}-	-C_7H_{15}	K41	A72 I
5549	C_8H_{17}-	-C_4H_9	K36.5	A64.5 I
5550	C_8H_{17}-	-C_5H_{11}	K37	B46 A71 I
5551	C_8H_{17}-	-C_6H_{13}	K44	B49 A72 I
5552	C_8H_{17}-	-C_7H_{15}	K50	B51.5 A73.5 I
5553	C_9H_{19}-	-C_4H_9	K37	A63.5 I
5554	C_9H_{19}-	-C_5H_{11}	K42	A78 I
5555	C_9H_{19}-	-C_6H_{13}	K34	A73 I
5556	C_9H_{19}-	-C_7H_{15}	K44	A73 I
5560	C_5H_{11}-O-	-C_4H_9	K55	A101 I
5561	C_5H_{11}-O-	-C_6H_{13}	K58	A103 I
5562	C_6H_{13}-O-	-CH_3	K99	A101 I
5563	C_6H_{13}-O-	-C_4H_9	K57	A100 I
5564	C_6H_{13}-O-	-C_6H_{13}	K55	A103 I

TABLE 65

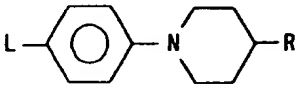


No	L	R		Cr	LC
5567	C_2H_5-CHMe-CH_2-O-	$-C_8H_{17}$	S	K57.8	A53.9 I
5568	C_2H_5-CHMe-C_3H_6-O-	$-C_4H_9$	S	K42.5	C*66.2 A77.3 I
5569	C_2H_5-CHMe-C_3H_6-O-	$-C_5H_{11}$	S	K50.5	C*76.5 A82 I
5570	C_2H_5-CHMe-C_3H_6-O-	$-C_6H_{13}$	S	K49	C*75.1 A80.1 I
5571	C_2H_5-CHMe-C_3H_6-O-	$-C_7H_{15}$	S	K55	C*77.1 A82 I
5572	C_2H_5-CHMe-C_3H_6-O-	$-C_8H_{17}$	S	K48	C*72.1 A76.9 I
5573	C_2H_5-CHMe-C_4H_8-O-	$-C_6H_{13}$	S	K34.5	C*70.7 A78.1 I
5574	C_2H_5-CHMe-C_4H_8-O-	$-C_8H_{17}$	S	K52.5	C*70 A73 I
5575	C_2H_5-CHMe-C_4H_8-COO-	$-C_8H_{17}$	S	K68	C*79.6 A80.8 I
5576	C_2H_5-CHMe-C_5H_{10}-O-	$-C_2H_5$	S	K33	A85.4 I
5577	C_2H_5-CHMe-C_5H_{10}-O-	$-C_3H_7$	S	K34.5	A93.4 I
5578	C_2H_5-CHMe-C_5H_{10}-O-	$-C_4H_9$	S	K29.8	C*57.1 A85 I
5579	C_2H_5-CHMe-C_5H_{10}-O-	$-C_5H_{11}$	S	K44	C*76.5 A89.5 I
5580	C_2H_5-CHMe-C_5H_{10}-O-	$-C_6H_{13}$	S	K37	C*79.3 A85.7 I
5581	C_2H_5-CHMe-C_5H_{10}-O-	$-C_7H_{15}$	S	K50.5	C*86.9 A88.8 I
5582	C_2H_5-CHMe-C_5H_{10}-O-	$-C_8H_{17}$	S	K44.5	C*81.2 A84.6 I
5583	C_2H_5-CHMe-C_5H_{10}-O-	$-C_9H_{19}$	S	K59.5	C*86 I
5584	C_2H_5-CHMe-C_5H_{10}-O-	$-C_{10}H_{21}$	S	K51.5	C*81.2 I

TABLE 66

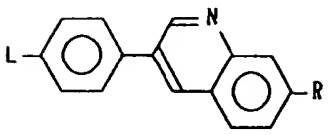


No	L	R	Cr	LC
5654	C_5H_{11}-O-	-C_6H_{13}	K65	C58.5 I
5655	C_5H_{11}-O-	-C_7H_{15}	K49	C52.5 N63 I
5656	C_6H_{13}-O-	-C_5H_{11}	K55	A68 I
5657	C_6H_{13}-O-	-C_7H_{15}	K58	C67 A74 N76 I
5658	C_4H_9-O-	-O-C_4H_9	K75.5	S57.5 N74 I
5659	C_4H_9-O-	-O-C_6H_{13}	K70	S68.5 N80 I
5660	C_5H_{11}-O-	-O-C_4H_9	K53.5	S61 N71 I
5661	C_5H_{11}-O-	-O-C_6H_{13}	K55.5	S70 S72.5 N82 I
5676	C_7H_{15}-COO-	-C_6H_{13}	K56	C50.5 A65 I



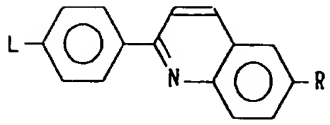
No	L	R	Cr	LC
7081	O_2N-	-OOC-$C_{10}H_{20}$-$Si_4O_4Me_7$-cy	K?	A50 I
7083	F-	-C_2H_5	K<20	N-36.2 I
7084	F-	-C_3H_7	K<20	N-14.6 I
7089	NC-	-C_6H_{13}	K29.7	N14.5 I
7097	C_4H_9-	-C_6H_{13}	K20	B44 I
7098	C_4H_9-O-	-C_6H_{13}	K40	B78 I
7099	CH_3-OOC-	-C_5H_{11}	K86.5	A90.5 I
7100	C_3H_7-OOC-	-C_5H_{11}	K37.8	A68 I
7101	C_4H_9-OOC-	-C_5H_{11}	K42	A57.8 I
7102	C_5H_{11}-OOC-	-C_5H_{11}	K45.5	A59 I

TABLE 67

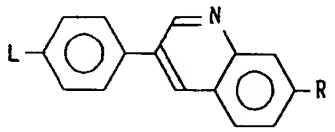


No	L	R		Cr	LC
7260	C_5H_{11}-	-O-C_8H_{17}		K72	A114 I
7261	C_4H_9-O-	-C_4H_9		K79	C96 N108 I
7262	C_5H_{11}-O-	-C_4H_9		K86	C101 N106.5 I
7264	C_4H_9-O-	-O-C_4H_9		K104	C112 N142 N150 I
7265	C_4H_9-O-	-O-C_8H_{17}		K92	C95 A140 N142.5 I
7266	C_9H_{19}-O-	-O-CH_3		K99	A116 N127 I
7267	C_9H_{19}-O-	-O-C_8H_{17}		K74.5	C135.5 A144 I
7268	C_4H_9-S-	-O-C_8H_{17}		K71.8	A119 I

TABLE 68

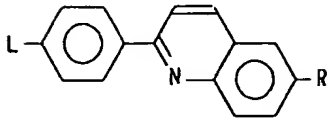


No	L	R	Cr	LC
7276	C_2H_5-O-	-CN	K150	S144 N189 I
7277	C_8H_{17}-	-C_6H_{13}	K68	C106 N116 I
7281	C_5H_{11}-	-O-C_4H_9	K77	S76 N118 I
7285	C_5H_{11}-O-	-C_5H_{11}	K73	C77 N118 I
7286	C_5H_{11}-O-	-C_6H_{13}	K73	C88 N114 I
7287	C_5H_{11}-O-	-C_7H_{15}	K71	C96 A98 N118 I
7288	C_5H_{11}-O-	-C_8H_{17}	K73	C92 A105 N112 I
7289	C_6H_{13}-O-	-C_5H_{11}	K68	C93 N125 I
7290	C_6H_{13}-O-	-C_6H_{13}	K66	C98 N117 I
7291	C_6H_{13}-O-	-C_7H_{15}	K65	C104 A106 N121 I
7292	C_6H_{13}-O-	-C_8H_{17}	K69	C104 A113 N117 I
7293	C_7H_{15}-O-	-C_5H_{11}	K73	C98 N121 I
7294	C_7H_{15}-O-	-C_6H_{13}	K70	C105 N116 I
7295	C_7H_{15}-O-	-C_7H_{15}	K70	C109 A113 N120 I
7296	C_7H_{15}-O-	-C_8H_{17}	K71	C109 A115 N116 I
7297	C_8H_{17}-O-	-C_5H_{11}	K72	C104 N120 I
7298	C_8H_{17}-O-	-C_6H_{13}	K68	C106 N116 I
7299	C_8H_{17}-O-	-C_7H_{15}	K70	C109 A117 N120 I



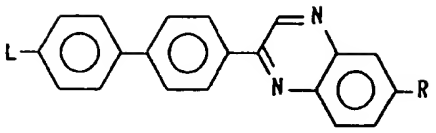
No	L	R	Cr	LC
7260	C_5H_{11}-	-O-C_8H_{17}	K72	A114 I
7261	C_4H_9-O-	-C_4H_9	K79	C96 N108 I
7262	C_5H_{11}-O-	-C_4H_9	K86	C101 N106.5 I
7264	C_4H_9-O-	-O-C_4H_9	K104	C112 A142 N150 I
7265	C_4H_9-O-	-O-C_5H_{11}	K92	C95 A140 N142.5 I
7266	C_9H_{19}-O-	-O-CH_3	K99	A116 N127 I
7267	C_9H_{19}-O-	-O-C_8H_{17}	K74.5	C135.5 A144 I
7268	C_4H_9-S-	-O-C_8H_{17}	K71.8	A119 I

TABLE 69

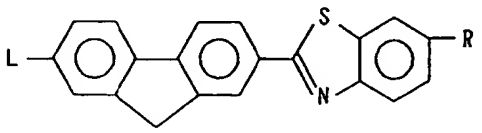


No	L	R		Cr	LC
7300	C_8H_{17}-O-	-C_8H_{17}		K69	C113 A118 I
7301	C_9H_{19}-O-	-C_5H_{11}		K76	C107 A109 N118 I
7302	C_9H_{19}-O-	-C_6H_{13}		K76	C111 A113 N116 I
7303	C_9H_{19}-O-	-C_7H_{15}		K76	C113 A119 I
7304	C_9H_{19}-O-	-C_8H_{17}		K75	C114 A117 I
7305	$C_{10}H_{21}$-O-	-C_5H_{11}		K77	C107 A113 N118 I
7306	$C_{10}H_{21}$-O-	-C_6H_{13}		K75	C110 A114 N116 I
7307	$C_{10}H_{21}$-O-	-C_7H_{15}		K74	C114 A119 I
7308	$C_{10}H_{21}$-O-	-C_8H_{17}		K68	C114 A116 I
7309	$C_{11}H_{23}$-O-	-C_5H_{11}		K83	C105 A114 N116 I
7310	$C_{11}H_{23}$-O-	-C_6H_{13}		K82	C110 A115 I
7311	$C_{11}H_{23}$-O-	-C_7H_{15}		K81	C113 A118 I
7312	$C_{11}H_{23}$-O-	-C_8H_{17}		K80	C115 A117 I
7313	$C_{12}H_{25}$-O-	-C_5H_{11}		K83	C104 A114 N116 I
7314	$C_{12}H_{25}$-O-	-C_6H_{13}		K103	C108 A113 I
7315	$C_{12}H_{25}$-O-	-C_7H_{15}		K79	C112 A118 I
7316	$C_{12}H_{25}$-O-	-C_8H_{17}		K79	C113 A115 I
7317	C_5H_{11}-CFMe-COO-	-C_8H_{17}	1	K65.3	S63.5 I

TABLE 70

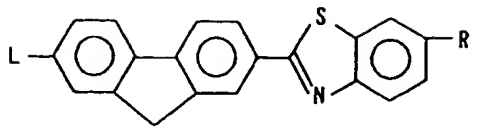


No	L	R		Cr	LC
27333	CH_3-	-H		K153	A151.5 N163.5 I
27334	C_2H_5-	-H		K142	A164 I
27335	C_3H_7-	-H		K125	A175.5 I
27336	C_4H_9-	-H		K120.5	A170 I
27337	C_5H_{11}-	-H		K113	A175 I
27338	C_6H_{13}-	-H		K99.5	A176 I
27339	C_7H_{15}-	-H		K86	E88 A170 I
27340	C_8H_{17}-	-H		K60	E82 A176 I
27341	C_9H_{19}-	-H		K61	S82 A173 I
27342	$C_{10}H_{21}$-	-H		K53	E83 A171 I
27343	CH_3-O-	-H		K169	A163 N203 I
27344	C_2H_5-O-	-H		K175	A202 N216 I
27345	C_3H_7-O-	-H		K157	A204 I
27346	C_5H_{11}-O-	-H		K145	E130 A206 I
27347	C_8H_{17}-O-	-H		K96	E115 A195 I
27348	$C_{10}H_{21}$-O-	-H		K98	E120 A194 I
27349	$C_{16}H_{33}$-O-	-H		K109	E106 A182.5 I
27351	C_5H_{11}-Oxazolidinyl-N-oxy-C_4H_8-O-	-H	2	K118	C101 A108 I
27352	C_8H_{17}-Oxazolidinyl-N-oxy-C_7H_{14}-O-	-H	2	K79	E99 C119 A134 I
27353	CH_3-Oxazolidinyl-N-oxy-C_6H_{12}-O-	-H	2	K113	C123 A158.5 I

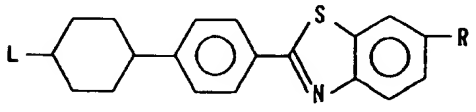


No	L	R		Cr	LC
8797	C_6H_{13}-	-C_6H_{13}		K170	S172 A236 I

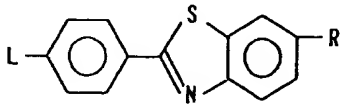
TABLE 71



No	L	R	Cr	LC
8797	C_8H_{13}-	-C_6H_{13}	K170	S172 A236 I



No	L	R	Cr	LC
28635	C_5H_{11}-	-C_6H_{13}	K67	S125 A204 N214 I



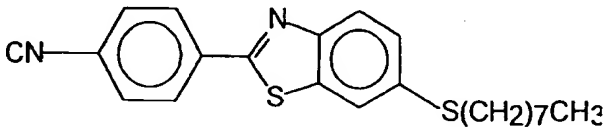
No	L	R	Cr	LC
7557	C_8H_{17}-O-	-F	K71.5	A128.5 I
7558	C_8H_{17}-O-	-Cl	K72	E94.5 A164 I
7559	C_8H_{17}-O-	-Br	K75.5	E107.5 A149.5 I
7561	C_6H_{13}-	-C_6H_{13}	K54	A45 N56 I
7562	C_8H_{17}-	-C_6H_{13}	K62	A69 I
7563	C_8H_{17}-O-	-C_6H_{13}	K55	C106 I
7570	C_8H_{17}-O-	-O-C_4H_9	K70.8	S99.8 N123.1 I
7572	$C_{12}H_{25}$-O-	-O-CH_3	K90.7	S96.9 N113.4 I

Example A1

44.6 g (0.34 mol) of 4-cyanobenzaldehyd and 54.4 g (0.64 mol) of o-aminobenzenethiol wer dissolved in 300 ml of dimethyl sulfoxide, and the t mperature of the solution was raised to 140°C. The produced water and the dimethyl sulfoxide were distilled off. After heating for one hr, the residue was cooled, water was added thereto, and the resultant

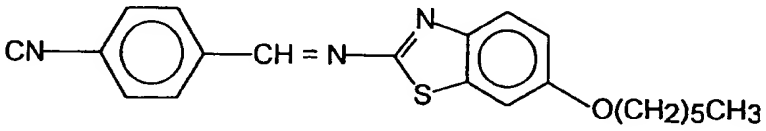
precipitate was collected by filtration and washed with ethanol. The crude crystal thus obtained was recrystallized from ethyl acetate to give 2-(4'-cyanophenyl)benzothiazole. 22.4 g (0.095 mol) of the compound was dissolved in 250 ml of acetic acid, and 18.6 g (0.116 mol) of bromine was dropwise added thereto. As soon as bromine was added, a yellow bromine adduct was produced. Subsequently, 150 ml of water was added, and the mixture was stirred at 80°C for 2 hr. It was then cooled, and the resultant precipitate was collected by filtration and washed with ethanol. The crude product thus obtained was recrystallized from ethyl acetate.

A 60 % by weight dispersion of 0.8 g (0.02 mol) of sodium hydride in an oil was suspended in 50 ml of ether, 3.22 g (0.022 mol) of 1-octanethiol was dropwise added thereto, and the mixture was refluxed for 30 min. Thereafter, the ether was distilled off, 50 ml of N,N-dimethylimidazolidinone was added to the residue, and the temperature of the system was raised to 60°C. 0.01 mol of 2-(4'-cyanophenyl)-6-bromobenzothiazole was added to the solution, and stirring was continued for one hr. The solution was cooled, water was added thereto, and the resultant precipitate was collected by filtration and washed with ethanol. The product thus obtained was recrystallized from a hexane/ethyl acetate mixed solution to give a compound represented by the following formula:



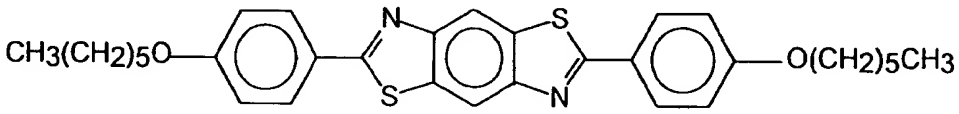
Example A2

1.31 g (0.01 mol) of 4-cyanobenzaldehyde, 2.5 g (0.01 mol) of 2-amino-6-hexyloxybenzothiazole, and 30 ml of ethanol were heated at 70°C for 2 hr. The reaction mixture was then cooled to room temperature, and the resultant solid matter was collected by filtration and recrystallized from ethanol to give a compound represented by the following formula:



Example A3

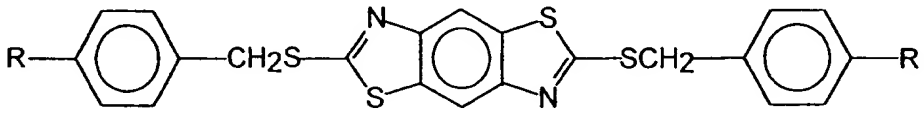
2.21 g (0.01 mol) of 2,5-diamino-1,4-benzenedithiol/dihydrochloric acid adduct, 5.34 g (0.024 mol) of 4-hexyloxybenzoic acid, 3 g of phosphorus pentaoxide, and 50 ml of methanesulfonic acid were allowed to react at 90°C for one hr and then heated at 80°C for 5 hr. The resultant product was collected by filtration and recrystallized from N-methylpyrrolidone to give a compound represented by the following formula:



Example A4

2.56 g (0.01 mol) of 2,6-dimercaptobenzo(1,2-d: 5,6-d')bisthiazole, 4.54 g (0.02 mol) of 4-hexyloxybenzyl chloride, 1.2 g of potassium carbonate, and 15 ml of N-methylpyrrolidone were heated at 80°C for 3 hr. The reaction mixture was

poured into water, and the resultant solid matter was collected by filtration and washed with water, methanol, and chloroform. It was then recrystallized from benzene to give a compound represented by the following formula:



wherein R=$CH_3(CH_2)_5O$.

Example A5

The procedure of Example A1 was repeated to prepare liquid crystalline compounds represented by the general formula (A) wherein R_1 and R_2 represent the following groups. The liquid crystalline compounds thus obtained had the same properties as the liquid crystalline compound prepared in Example A1.

Example	R_1	R_2
A5-1	$CH_3(CH_2)_9O$	CN
A5-2	$CH_3CH_2C^*H(CH_3)CH_2O$	CN
A5-3	$CH_3(CH_2)_5O$	$O(CH_2)_9CH_3$
A5-4	NO_2	$S(CH_2)_7CH_3$
A5-5	NO_2	$O(CH_2)_7CH_3$
A5-6	F	$O(CH_2)_9CH_3$

Example A6

The procedure of Example A2 was repeated to prepare liquid crystalline compounds represented by the general formula (B) wherein R_1 and R_2 represent the following groups. The liquid crystalline compounds thus obtained had the same properties as the liquid crystalline compound prepared in Example A2.

Example	R_1	R_2	Z
A6-1	NO_2	$O(CH_2)_9CH_3$	CH=N
A6-2	$CH_3(CH_2)_5O$	$O(CH_2)_5CH_3$	COO
A6-3	$CH_3CH_2C^*H(CH_3)CH_2O$	$O(CH_2)_7CH_3$	CH=CH
A6-4	CN	$O(CH_2)_8CH_3$	CH=CH
A6-5	$CH_3(CH_2)_9O$	$O(CH_2)_3CH_3$	C=C
A6-6	$CH_3(CH_2)_5O$	$O(CH_2)_5CH_3$	N=N

Example A7

The procedure of Example A3 was repeated to prepare liquid crystalline compounds represented by th general formula (C) wherein R_1 represents th following groups. Th liquid crystalline compounds thus obtained had th same properties as the liquid crystalline compound prepared in Example A3.

Example	R_1
A7-1	$CH_3(CH_2)_9O$
A7-2	$CH_3(CH_2)_9$
A7-3	$CH_3(CH_2)_9S$
A7-4	$CH_3(CH_2)_5S$
A7-5	$CH_3(CH_2)_8S$
A7-6	$CH_3CH_2C^*H(CH_3)CH_2O$

Example A8

The procedure of Example A3 was repeated to prepare liquid crystalline compounds represented by the general formula (D) wherein R_1 represents the following group. The liquid crystalline compounds thus obtained had the same properties as the liquid crystalline compound prepared in Example A4.

Example	R_1	Z
A8-1	$CH_3(CH_2)_5O$	COO
A8-2	$CH_3(CH_2)_5O$	CH=N
A8-3	$CH_3CH_2C^*H(CH_3)CH_2O$	CH=CH
A8-4	$CH_3(CH_2)_5S$	CH=N
A8-5	$CH_3(CH_2)_3O$	N=N
A8-6	$CH_3(CH_2)_9O$	COO

According to the present invention, novel liquid crystalline compounds are provided which exhibit liquid crystallinity and, in addition, photoconductivity and fluorescence. The novel liquid crystalline compounds are useful as materials for liquid crystal displays, photosensitive materials for electrophotography and the like.

Example B

[Synthesis of 2-(4'-heptyloxyphenyl)benzothiazole]

74.2 g (0.34 mol) of 4-heptyloxybenzaldehyde and 54.4 g (0.46 mol) of o-aminobenzenethiol were dissolved in 300 ml of dimethyl sulfoxide, and the temperature of the solution was raised to 140°C. The produced water and the dimethyl sulfoxide were distilled off. After heating for one hr, the residue was cooled, water was added thereto, and the resultant precipitate was collected by filtration and washed with ethanol. The crude crystal thus obtained was recrystallized from ethyl acetate. The yield was 90%.

The above compound exhibited the following peaks in NMR spectrum:

^1H NMR ($CDCl_3$)

δ = 0.90 (3H, t, J = 6.6 Hz), 1.25-1.47 (8H, m), 1.81 (2H, quint, J = 6.6 Hz), 4.01 (2H, t, J = 6.5 Hz), 6.97 (2H, d, J = 8.5 Hz), 7.33 (1H, d, J = 8.9 Hz), 7.45 (1H, t, J = 8.5 Hz), 7.86 (1H, d, J = 7.9 Hz), 8.01 (1H, d, J = 8.9 Hz), 8.02 (2H, d, J = 8.5 Hz)

Further, it exhibited the following peaks in IR (KBr disc) spectrum:

506, 568, 622, 648, 698, 730, 968, 1010, 1037, 1300, 1316, 1394, 1417, 1441, 1470, 1483, 1520, 1603, 2852, 2912 cm^{-1}

[Synthesis of 2-(4'-heptyloxyphenyl)-6-bromobenzothiazole]

31.0 g (0.095 mol) of 2-(4'-heptyloxyphenyl)benzothiazole was dissolved in 250 ml of acetic acid, and 18.6 g (0.116 mol) of bromine was dropwise added thereto. As soon as bromine was added, a yellow bromine adduct was produced. Subsequently, 150 ml of water was added, and the mixtur was stirred at 80°C for 2 hr. It was then cooled, and the resultant precipitate was collected by filtration and washed with ethanol. The crude product thus obtained was recrystallised from ethyl acetate. The yield was 68%.

The above compound exhibited the following peaks in NMR spectrum:

^{1}H NMR ($CDC1_3$) δ = 0.90 (3H, t, J = 6.6 Hz), 1.33-1.50 (8H, m), 1.81 (2H, quint, J = 6.6 Hz), 4.03 (2H, t, J = 6.6 Hz), 6.98 (2H, d, J = 8.6 Hz), 7.55 (1H, dd, J1 = 2.0 and J2 = 8.6 Hz), 7.85 (1H, d, J = 8.6 Hz), 7.98 (1H, d, J = 2.0 Hz), 7.99 (2H, d, J = 8.6 Hz)

Further, it exhibited the following peaks in IR (KBr disc) spectrum:

520, 563, 622, 666, 695, 723, 748, 859, 1015, 1040, 1090, 1115, 1224, 1393, 1438, 1474, 1488, 1520, 1541, 2855, 2922, 2937 cm^{-1}

[General process for synthesizing 2-(4'-alkoxyphenyl)-6-alkylthiobenzothiazole derivatives]

A 60 % by weight dispersion of 0.8 g (0.02 mol) of sodium hydride in an oil was suspended in 50 ml of ether, 0.022 mol of a corresponding alkanethiol was dropwise added thereto, and the mixture was refluxed for 30 min. Thereafter, the ether was distilled off, 50 ml of N,N'-dimethylimidazolidinone was added to the residue, and the temperature of the system was raised to 60°C. 0.01 mol of 2-(4'-heptyloxyphenyl)-6-bromobenzothiazole was added to the solution, and stirring was continued for one hr. The solution was cooled, water was added thereto, and the resultant precipitate was collected by filtration and washed with ethanol. The crude product thus obtained was recrystallized from hexane.

2-(4'-alkoxyphenyl)-6-alkylthiobenzothiazole, having the same R (heptyl group) and different R', had the following properties.

[2-(4'-heptyloxyphenyl)-6-hexylthiobenzothiazole] (yield 65%):

^{1}H NMR ($CDC1_3$) δ = 0.89 (3H, t, J = 6.6 Hz), 0.90 (3H, t, J = 6.6 Hz), 1.27-1.47 (14H, m), 1.67 (2H, quint, J = 7.2 Hz), 1.82 (2H, quint, J = 6.6 Hz), 2.98 (2H, t, J = 7.2 Hz), 4.02 (2H, t, J = 6.6 Hz), 6.98 (2H, d, J = 8.6 Hz), 7.43 (1H, dd, J1 = 1.7 and J2 = 8.3 Hz), 7.82 (1H, d, J = 1.7 Hz), 7.91 (1H, d, J = 8.3 Hz), 7.99 (2H, d, J = 8.6 Hz)
IR (KBr disc)
520, 570, 621, 701, 727, 966, 1010, 1040, 1112, 1276, 1306, 1396, 1418, 1441, 1474, 1485, 1520, 1543, 1575, 1606, 2855, 2956 cm^{-1}
Heating: Cryst (80.5°C) - SmA (103.7°C) - iso (2°C/min)
Cooling: Iso (103.2°C) - SmA (83.9°C) - Cryst (5°C/min)

[2-(4'-heptyloxyphenyl)-6-octylthiobenzothiazole] (yield 54%):

^{1}H NMR ($CDC1_3$) δ = 0.87 (3H, t, J = 6.9 Hz), 0.90 (3H, t, J = 6.6 Hz), 1.18-1.47 (18H, m), 1.67 (2H, quint, J = 7.3 Hz), 1.81 (2H, quint, J = 6.6 Hz), 2.97 (2H, t, J =7.3 Hz), 4.02 (2H, t, J = 6.6 Hz), 6.98 (2H, d, J = 8.9 Hz), 7.42 (1H, dd, J1 = 1.6 and J2 = 8.6 Hz), 7.81 (1H, d, J = 1.6 Hz), 7.90 (1H, d, J = 8.6 Hz), 7.98 (2H, d, J = 8.9 Hz)
IR (KBr disc)
520, 570, 621, 702, 727, 774, 843, 967, 1017, 1041, 1112, 1176, 1276, 1306, 1396, 1441, 1474, 1486, 1520, 1543, 1575, 1607, 2855, 2956 cm^{-1}
Heating: Cryst (94.0°C) - SmA (102.0°C) - iso (2°C/min)
Cooling: Iso (100.3°C) - SmA (89.8°C) - Sm? (78.2°C) - Cryst (5°C/min)

[2-(4'-heptyloxyphenyl)-6-decylthiobenzothiazole] (yield 63%):

^{1}H NMR ($CDC1_3$) δ = 0.87 (3H, t, J = 6.9 Hz), 0.90 (3H, t, J = 6.6 Hz), 1.25-1.47 (22H, m), 1.66 (2H, quint, J = 7.3 Hz), 1.81 (2H, quint, J = 6.6 Hz), 2.96 (2H, t, J = 7.3 Hz), 4.02 (2H, t, J = 6.6 Hz), 6.97 (2H, d, J = 8.9 Hz), 7.43 (1H, dd, J1 = 2.0 and J2 = 8.6 Hz), 7.81 (1H, d, J = 2.2 Hz), 7.89 (1H, d, J = 8.6 Hz), 7.98 (2H, d, J = 8.9 Hz)
IR (KBr disc)
570, 812, 842, 967, 1018, 1041, 1112, 1177, 1306, 1393, 1441, 1474, 1485, 1519,1575, 1607, 2853, 2957 cm^{-1}
Heating: Cryst (95.5°C) - SmA (100.9°C) -iso (2°C/min)
Cooling: Iso (100.6°C) -SmA (93.1°C) -Cryst (5°C/min)

[2-(4'-heptyloxyphenyl)-6-dodecylthiobenzothiazole] (yield 67%):

^{1}H NMR ($CDC1_3$) δ = 0.87 (3H, t, J = 7.0 Hz), 0.90 (3H, t, J = 6.6 Hz), 1.28-1.46 (26H, m), 1.62(2H, quint, J = 7.6 Hz), 1.78 (2H, quint, J = 7.6 Hz), 2.97 (2H, t, J = 7.6 Hz), 4.02 (2H, t, J = 6.6 Hz), 6.97 (2H, d, J = 8.6 Hz), 7.42 (1H, dd, J1 = 2.0 and J2 = 8.6 Hz), 7.81 (1H, d, J = 2.0 Hz), 7.90 (1H, d, J = 8.6 Hz), 7.98 (2H, d, J = 8.6 Hz)
IR (KBr disc)
571, 812, 841, 967, 1018, 1111, 1178, 1306, 1395, 1474, 1486, 1519, 1607, 2852, 2920, 2956 cm^{-1}
Heating: Cryst (90.0°C) - SmA (98.0°C) - iso (2°C/min)
Cooling: Iso (96.1°C) -SmA (85.7°C) - Cryst (5°C/min)
UV - VIS λmax = 327 nm (10^{-6}M in $CC1_3$)
PL (He - Cd Laser 324 nm) λmax = 420, 438 nm

Example C

Synthesis Example 1 of Intermediate

[Synthesis of 2-(4'-heptyloxyphenyl)benzothiazole]

74.2 g (0.34 mol) of 4-heptyloxybenzaldehyde and 54.4 g (0.46 mol) of o-aminobenzenethiol were dissolved in 300 ml of dimethyl sulfoxide, and the temperature of the solution was raised to 140°C. The produced water and the dimethyl sulfoxide were distilled off. After heating for one hr, the residue was cooled, water was added thereto, and the resultant precipitate was collected by filtration and washed with ethanol. The crude crystal thus obtained was recrystallized from ethyl acetate. The yield was 90%.

The above compound exhibited the following peaks in NMR spectrum:
^{1}H NMR ($CDCl_3$)
δ = 0.90 (3H, t, J = 6.6 Hz), 1.25-1.47 (8H, m), 1.81 (2H, quint, J = 6.6 Hz), 4.01 (2H, t, J = 6.5 Hz), 6.97 (2H, d, J = 8.5 Hz), 7.33 (1H, d, J = 8.9 Hz), 7.45 (1H, t, J = 8.5 Hz), 7.86 (1H, d, J = 7.9 Hz), 8.01 (1H, d, J = 8.9 Hz), 8.02 (2H, d, J = 8.5 Hz)

Further, it exhibited the following peaks in IR (KBr disc) spectrum:
506, 568, 622, 648, 698, 730, 968, 1010, 1037, 1300, 1316, 1394, 1417, 1441, 1470, 1483, 1520, 1603, 2852, 2912 cm^{-1}

Synthesis Example 2 of Intermediate

[Synthesis of 2-(4'-heptyloxyphenyl)-6-bromobenzothiazole]

31.0 g (0.095 mol) of 2-(4'-heptyloxyphenyl)benzothiazole was dissolved in 250 ml of acetic acid, and 18.6 g (0.116 mol) of bromine was dropwise added thereto. As soon as bromine was added, a yellow bromine adduct was produced. Subsequently, 150 ml of water was added, and the mixture was stirred at 80°C for 2 hr. It was then cooled, and the resultant precipitate was collected by filtration and washed with ethanol. The crude product thus obtained was recrystallized from ethyl acetate. The yield was 68%.

The above compound exhibited the following peaks in NMR spectrum:
^{1}H NMR ($CDC1_3$) δ = 0.90 (3H, t, J = 6.6 Hz), 1.33-1.50 (8H, m), 1.81 (2H, quint, J = 6.6 Hz), 4.03 (2H, t, J = 6.6 Hz), 6.98 (2H, d, J = 8.6 Hz), 7.55 (1H, dd, J1 = 2.0 and J2 = 8.6 Hz), 7.85 (1H, d, J = 8.6 Hz), 7.98 (1H, d, J = 2.0 Hz), 7.99 (2H, d, J = 8.6 Hz)

Further, it exhibited the following peaks in IR (KBr disc) spectrum:
520, 563, 622, 666, 695, 723, 748, 859, 1015, 1040, 1090, 1115, 1224, 1393, 1438, 1474, 1488, 1520, 1541, 2855, 2922, 2937 cm^{-1}

Examples C1 to C4

[General process for synthesizing 2-(4'-alkoxyphenyl)-6-alkylthiobenzothiazole derivatives]

A 60 % by weight dispersion of 0.8 g (0.02 mol) of sodium hydride in an oil was suspended in 50 ml of ether, 0.022 mol of a corresponding alkanethiol was dropwise added thereto, and the mixture was refluxed for 30 min. Thereafter, the ether was distilled off, 50 ml of N,N'-dimethylimidazolidin ne was added to the residue, and the temperature of th syst m was raised to 60°C. 0.01 mol of 2-(4'-heptyloxyphenyl)-6-bromobenzothiazole was added to the solution, and stirring was continued for one hr. The solution was cooled, water was added thereto, and the resultant precipitate was collected by filtration and washed with ethanol. The crude product thus obtained was recrystallized from hexane.

2-(4'-alkoxyphenyl)-6-alkylthiobenzothiazole, having the same R (heptyl group) and different R', had the following properties.

Example C1

[2-(4'-heptyloxyphenyl)-6-hexylthiobenzothiazole] (yield 65%):

^{1}H NMR ($CDC1_3$) δ = 0.89 (3H, t, J = 6.6 Hz), 0.90 (3H, t, J = 6.6 Hz), 1.27-1.47 (14H, m), 1.67 (2H, quint, J = 7.2 Hz), 1.82 (2H, quint, J = 6.6 Hz), 2.98 (2H, t, J = 7.2 Hz), 4.02 (2H, t, J = 6.6 Hz), 6.98 (2H, d, J = 8.6 Hz), 7.43 (1H, dd, J1 = 1.7 and J2 = 8.3 Hz), 7.82 (1H, d, J = 1.7 Hz), 7.91 (1H, d, J = 8.3 Hz), 7.99 (2H, d, J = 8.6 Hz)
IR (KBr disc)
520, 570, 621, 701, 727, 966, 1010, 1040, 1112, 1276, 1306, 1396, 1418, 1441, 1474, 1485, 1520, 1543, 1575, 1606, 2855, 2956 cm^{-1}
Heating: Cryst (80.5°C) - SmA (103.7°C) - iso (2°C/min)
Cooling: Iso (103.2°C) - SmA (83.9°C) - Cryst (5°C/min)

Example C2

[2-(4'-heptyloxyphenyl)-6-octylthiobenzothiazole] (yield 54%):

^{1}H NMR ($CDC1_3$) δ = 0.87 (3H, t, J = 6.9 Hz), 0.90 (3H, t, J = 6.6 Hz), 1.18-1.47 (18H, m), 1.67 (2H, quint, J = 7.3 Hz), 1.81 (2H, quint, J = 6.6 Hz), 2.97 (2H, t, J =7.3 Hz), 4.02 (2H, t, J = 6.6 Hz), 6.98 (2H, d, J = 8.9 Hz), 7.42 (1H, dd, J1 = 1.6 and J2 = 8.6 Hz), 7.81 (1H, d, J = 1.6 Hz), 7.90 (1H, d, J = 8.6 Hz), 7.98 (2H, d, J = 8.9 Hz)
IR (KBr disc)
520, 570, 621, 702, 727, 774, 843, 967, 1017, 1041, 1112, 1176, 1276, 1306, 1396, 1441, 1474, 1486, 1520, 1543, 1575, 1607, 2855, 2956 cm^{-1}
Heating: Cryst (94.0°C) - SmA (102.0°C) - iso (2°C/min)
Cooling: Iso (100.3°C) - SmA (89.8°C) - Sm? (78.2°C) - Cryst (5°C/min)

Example C3

[2-(4'-heptyloxyphenyl)-6-decylthiobenzothiazole] (yield 63%):

^{1}H NMR ($CDC1_3$) δ = 0.87 (3H, t, J = 6.9 Hz), 0.90 (3H, t, J = 6.6 Hz), 1.25-1.47 (22H, m), 1.66 (2H, quint, J = 7.3 Hz), 1.81 (2H, quint, J = 6.6 Hz), 2.96 (2H, t, J = 7.3 Hz), 4.02 (2H, t, J = 6.6 Hz), 6.97 (2H, d, J = 8.9 Hz), 7.43 (1H, dd, J1 = 2.0 and J2 = 8.6 Hz), 7.81 (1H, d, J = 2.2 Hz), 7.89 (1H, d, J = 8.6 Hz), 7.98 (2H, d, J = 8.9 Hz)
IR (KBr disc)
570, 812, 842, 967, 1018, 1041, 1112, 1177, 1306, 1393, 1441, 1474, 1485, 1519,1575, 1607, 2853, 2957 cm^{-1}
Heating: Cryst (95.5°C) - SmA (100.9°C) -iso (2°C/min)
Cooling: Iso (100.6°C) -SmA (93.1°C) -Cryst (5°C/min)

Example C4

[2-(4'-heptyloxyphenyl)-6-dodecylthiobenzothiazoie](yield 67%):

^{1}H NMR ($CDC1_3$) δ = 0.87 (3H, t, J = 7.0 Hz), 0.90 (3H, t, J = 6.6 Hz), 1.28-1.46 (26H, m), 1.62(2H, quint, J = 7.6 Hz), 1.78 (2H, quint, J = 7.6 Hz), 2.97 (2H, t, J = 7.6 Hz), 4.02 (2H, t, J = 6.6 Hz), 6.97 (2H, d, J = 8.6 Hz), 7.42 (1H, dd, J1 = 2.0 and J2 = 8.6 Hz), 7.81 (1H, d, J = 2.0 Hz), 7.90 (1H, d, J = 8.6 Hz), 7.98 (2H, d, J = 8.6 Hz)
IR (KBr disc)
571, 812, 841, 967, 1018, 1111, 1178, 1306, 1395, 1474, 1486, 1519, 1607, 2852, 2920, 2956 cm^{-1}
Heating: Cryst (90.0°C) - SmA (98.0°C) - iso (2°C/min)
Cooling: Iso (96.1°C) -SmA (85.7°C) - Cryst (5°C/min)
UV - VIS λmax = 327 nm (10^{-6}M in $CC1_3$)
PL (He - Cd Laser 324 nm) λmax = 420, 438 nm

Examples C5 to C10

Liquid crystalline compounds represented by the abov general formula wherein R and R' represent the following groups were prepared in the same manner as in the above examples and comparative examples. All the liquid crystal-

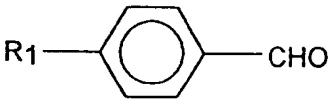
line compounds thus obtained had the same properties as those prepared in Examples C1 to C4.

Example	R	R'
Example C5	Hexyl group	Heptyl group
Example C6	Octyl group	Nonyl group
Example C7	Hexyl group	Undecynyl group
Example C8	Decyl group	Tetradecyl group
Example C9	Amyl group	Tridecyl group
Example C10	Dodecyl group	Heptyl group

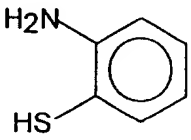
According to the present invention, novel liquid crystalline compounds which exhibit liquid crystallinity and, in addition, photoconductivity and fluorescence. The novel liquid crystalline compounds are useful as materials for liquid crystal displays, photosensitive materials for electrophotography and the like.

Claims

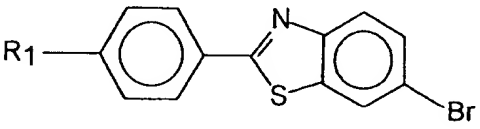
1. A process for producing a liquid crystalline compound represented by the general formula (A), comprising the steps of: reacting a compound represented by the general formula (1) with a compound represented by the general formula (2); brominating the reaction product to give a compound represented by the general formula (3); and substituting the bromine atom of the compound (3) with an R_2 group to obtain the liquid crystalline compound (A):



(1)



(2)



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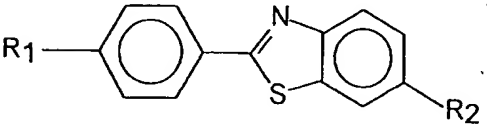
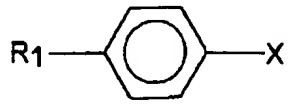


(A)

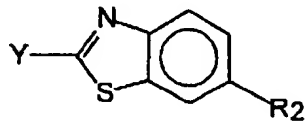
wherein R_1 and R_2 represent (a) a cyano group, (b) a nitro group, (c) a fluorine atom, or (d) a C_1 - C_{22} straight-chain or branched, saturated or unsaturated, alkyl or alkoxy group attached to the aromatic ring through an oxygen atom, or a sulfur atom, provided that at least one of R_1 and R_2 represents said alkyl or alkoxy group.

2. A process for producing a liquid crystallin compound represented by the general formula (B), comprising the step of: reacting a compound represented by the general formula (4) with a compound represented by the general for-

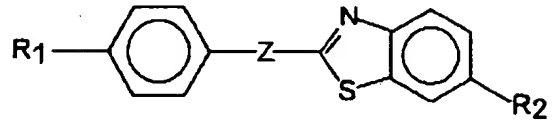
mula (5) to obtain the liquid crystalline compound (B):



(4)



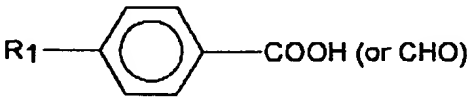
(5)



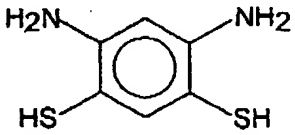
(B)

wherein R_1 and R_2 represent (a) a cyano group, (b) a nitro group, (c) a fluorine atom, or (d) a C_1 - C_{22} straight-chain or branched saturated or unsaturated, alkyl or alkoxy group attached to the aromatic ring through an oxygen atom, or a sulfur atom, provided that at least one of R_1 and R_2 represents said alkyl or alkoxy group; and X and Y are respectively groups which are reacted with each other to form Z selected from a -COO-, -OCO-, -N=N-, -CH=N-, -N=N-, $-CH_2S-$, -CH=CH-, or -C≡C- group.

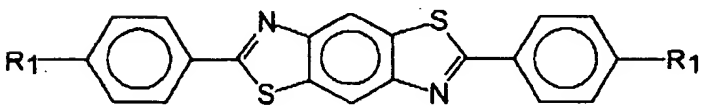
3. A process for producing a liquid crystalline compound represented by the general formula (C), comprising the step of: reacting 2 moles of a compound represented by the general formula (6) with one mole of a compound represented by the general formula (7) to obtain the liquid crystalline compound (C):



(6)



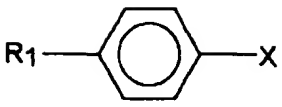
(7)



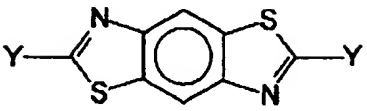
(C)

wherein R_1 is a C_1 - C_{22} straight-chain or branched saturated or unsaturated alkyl or alkoxy group attached to the aromatic ring through an oxygen or sulfur.

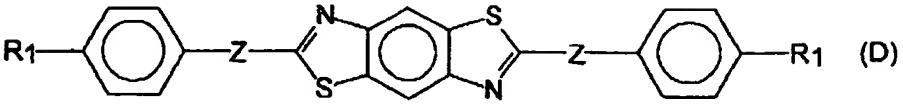
4. A process for producing a liquid crystalline compound represented by the general formula (D), comprising the step of: reacting two moles of a compound represented by the general formula (8) with one mole of a compound represented by the general formula (9) to obtain the liquid crystalline compound (D):



(8)



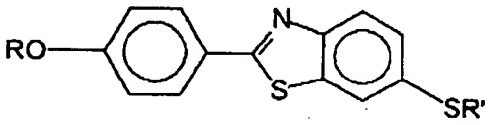
(9)



(D)

wherein R_1 is a C_1 - C_{22} straight-chain or branched saturated or unsaturated alkyl or alkoxy group attached to the aromatic ring through an oxygen or sulfur group; and X and Y are respectively groups which are reacted with each other to form Z selected from a -COO-, -OCO-, -N=N-, -CH=N-, - N=N-, $-CH_2S-$, -CH=CH-, or -C≡C- group.

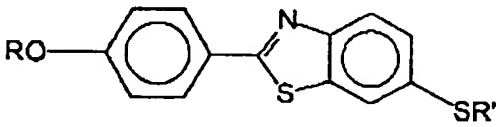
5. A process for producing a liquid crystalline compound represented by the following general formula (I), comprising the steps of: reacting a 4-alkoxybenzaldebyde with o-aminobenzenethiol to synthesize a 2-(4'-alkoxyphenyl)benzothiazole; brominating the 2-(4'-alkoxyphenyl)benzothiazole to synthesize a 2-(4'-alkoxyphenyl)-6-bromobenzothiazole; and reacting the resultant bromide with an alkanethiol to obtain the liquid crystalline compound (I):



(I)

wherein R represents a C_4 - C_{20} alkyl group; and R' represents a C_4 - C_{20} alkyl group, provided that the total number of carbon atoms contained in R and R' is 10 or more.

6. A liquid crystalline compound represented by the following general formula (II):



(II)

wherein R represents C_7H_{15} and R' represents C_6H_{13}, C_9H_{17}, $C_{10}H_{21}$ or $C_{12}H_{25}$.

7. A liquid crystalline charge transport material which exhibits smectic liquid crystallinity and has a reduction potential relative to a standard reference electrode (SCE) in the range of from -0.3 to -0.6 (V vs. SCE).

8. A liquid crystalline charge transport material which exhibits smectic liquid crystallinity and has an oxidation potential relative to a standard reference electrode (SCE) in the range of from 0.2 to 1.3 (V vs. SCE).

9. The liquid crystalline charge transport material according to claim 7 or 8 which has (aromatic ring of 6 π electron system) n (wherein n is an integer of 1 to 4) cores and exhibits smectic liquid crystallinity.

10. The liquid crystalline charg transport material according to claim 9, wherein the ar matic ring of 6 π electron system is linked through a carbon-carbon double bond or a carbon-carbon triple bond.

11. The liquid crystalline charge transport material according to claim 7 or 8 which has a core of an aromatic ring of 10 π electron system and exhibits smectic liquid crystallinity.

12. An image display device comprising th material according to claim 7 or 8 in a drive path.

13. An electroluminescence device comprising the material according to claim 7 or 8 in a drive path.

14. A photoconductor comprising the material according to claim 7 or 8 in a drive path.

15. A space light modulating device comprising the material according to claim 7 or 8 in a drive path.

16. A thin film transistor comprising the material according to claim 7 or 8 in a drive path.

17. A liquid crystalline charge transport material comprising a liquid crystalline compound produced by the process according to any one of claims 1 to 4.

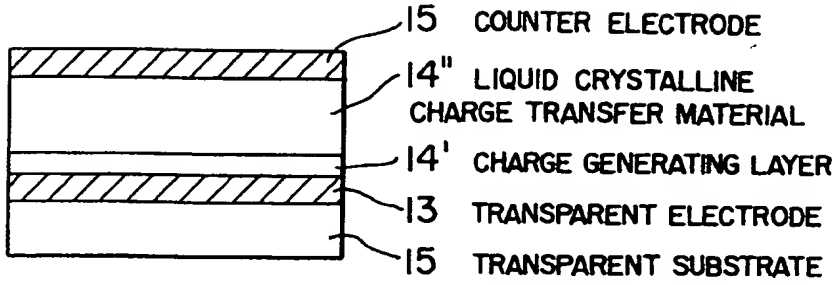


FIG. 1

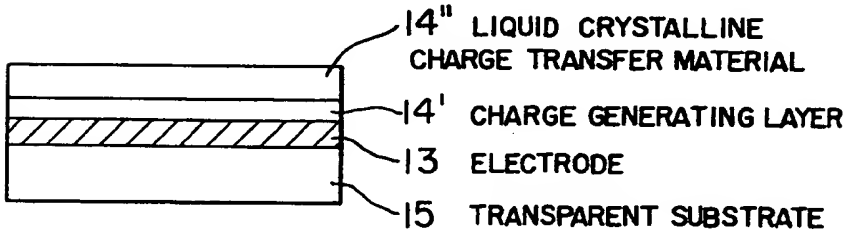


FIG. 2

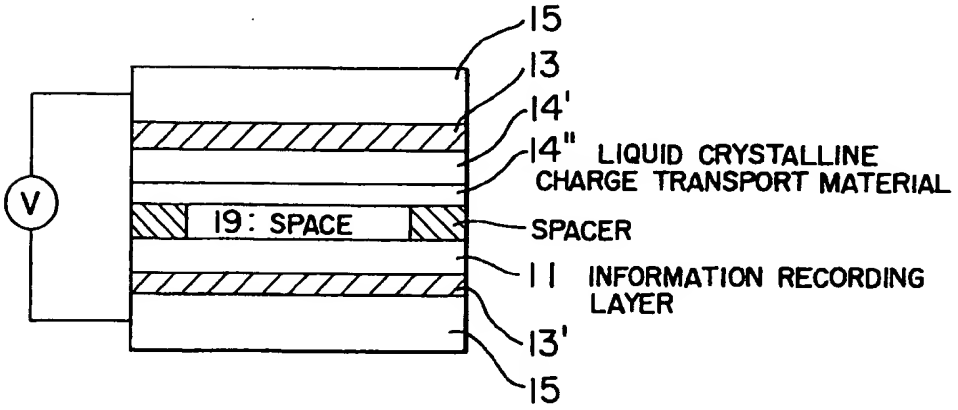


FIG. 3

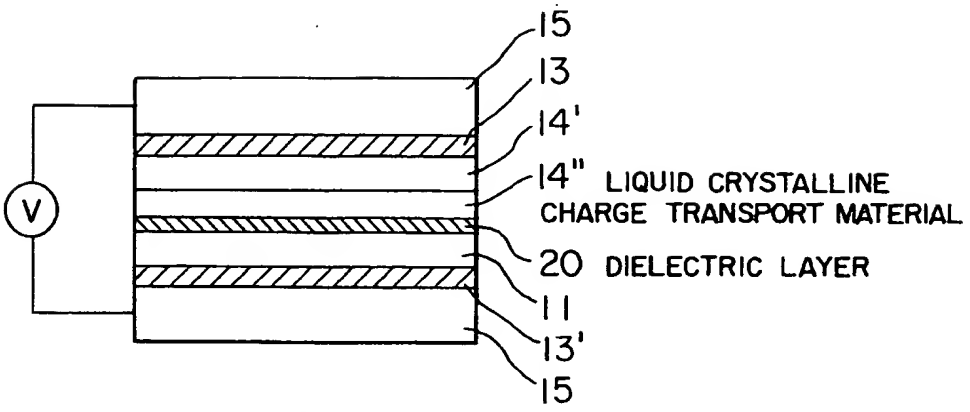


FIG. 4

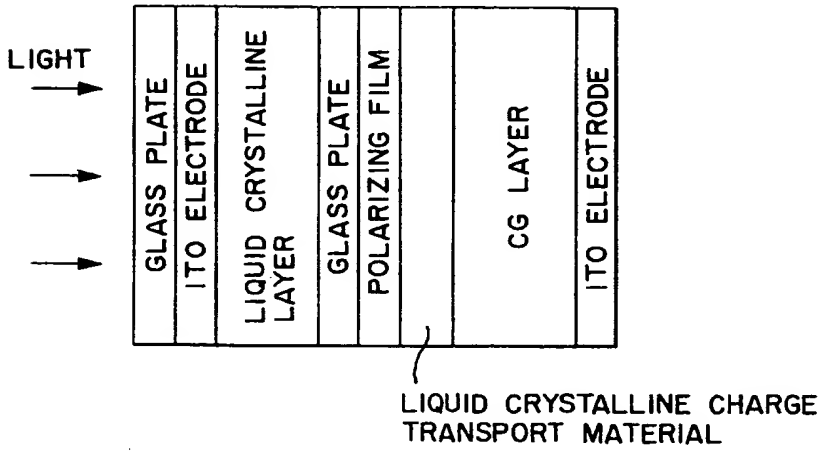


FIG. 5

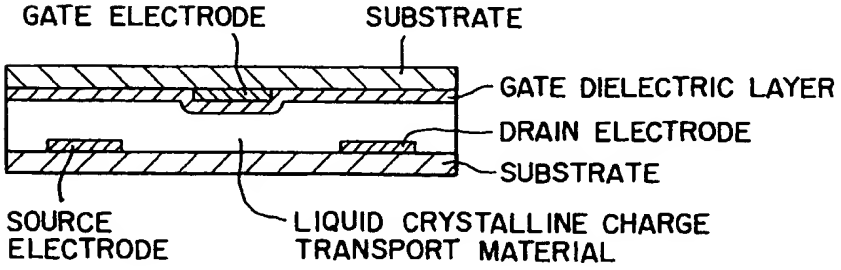


FIG. 6